

In the United States District Court
for the District of Kansas

- - -

DAVID BURTON,

Plaintiff,

VS.

R. J. REYNOLDS TOBACCO CO.,
et al.

Defendants.

CERTIFIED COPY

Case No. 94-2202-JWL

VIDEO DEPOSITION OF

MURRAY SENKUS, PH.D.

WINSTON-SALEM, NORTH CAROLINA

JULY 26, 2001

ATKINSON-BAKER, INC.
COURT REPORTERS
330 North Brand Boulevard, Suite 250
Glendale, California 91203
(818) 551-7300

REPORTED BY: PATRICIA REID

FILE NO.: 9B05724

52614 7348

In the United States District Court
for the District of Kansas

- - -

DAVID BURTON,

Plaintiff,

VS.

R. J. REYNOLDS TOBACCO CO.,
et al.

Defendants.

Case No. 94-2202-JWL

Video deposition of MURRAY SENKUS, PH.D., taken on
behalf of the Plaintiff at the law offices of Womble,
Carlyle, Sandridge & Rice, 200 West Second Street,
Conference Room 11-A, Winston-Salem, North Carolina,
commencing 9:14 a.m., Thursday, July 26, 2001, before
Patricia Reid.

A P P E A R A N C E S

FOR THE PLAINTIFF:

HUMPHREY, FARRINGTON & MCCLAIN
 BY: KENNETH B. MCCLAIN, ESQ., and
 DONALD H. LOUDON, JR., ESQ.
 2221 West Lexington
 Suite 400
 Post Office Box 900
 Independence, Missouri 64051

FOR THE DEFENDANT, REYNOLDS TOBACCO COMPANY:

JONES, DAY, REAVIS & POGUE
 BY: MS. SYDNEY BOSWORTH MCDOLE
 2727 North Harwood Street
 Post Office Box 660623
 Dallas, Texas 75266-0623

and

WOMBLE, CARLYLE, SANDRIDGE & RICE
 BY: CHRISTOPHER A. KREINER, ESQ.
 200 West Second Street
 Post Office Drawer 84
 Winston-Salem, North Carolina 27102

FOR THE DEFENDANTS, BROWN & WILLIAMSON AND
AMERICAN TOBACCO COMPANY:

DINSMORE & SHOHL
 BY: MS. MARY JO MIDDELHOFF
 1900 Chemed Center
 255 East Fifth Street
 Cincinnati, Ohio 45202

FOR THE WITNESS:

FINGER, PARKER, AVRAM, MARTIN & ROEMER
 BY: GABRIEL AVRAM, ESQ.
 204 Northgate Park Drive
 Winston-Salem, North Carolina 27106

Also present: Debby Jones, Videographer

produced by R.J.T.C.

52614 7350

I N D E X

WITNESS: MURRAY SENKUS, PH.D.

PAGE

STIPULATIONS:

7

EXAMINATION

MR. MCCLAIN

8, 199, 212

MS. MCDOLE

166, 210

EXHIBITS

NUMBER	DEPOSITION DESCRIPTION	PAGE
1 -	"A Frank Statement to Cigarette Smokers"	14
2 -	Report authored by Murray Senkus entitled "Conference on Cardiovascular Effects of Nicotine and Smoking"	21
3 -	"Proposal of a New, Consumer-oriented Business Strategy for RJR Tobacco Company"	28
4 -	Memo to Doctor Murray Senkus from A.H. Laurene	34
5 -	"A Gap in Present Cigarette Product Lines and an Opportunity to Market a New Type of Product"	38
6 -	"Research Planning Memorandum on the Nature of the Tobacco Business and the Crucial Role of Nicotine Therein"	41
7 -	"Research Planning Memorandum on Products Made with Purified Tobacco Smoke Condensate"	59
8 -	Inter-office Memorandum to Doctor C.E. Teague, Jr. from Frank G. Colby dated May 19, 1972	61
9 -	"Motives and Incentives in Cigarette Smoking, A Summary"	62
10 -	"Motives and Incentives in Cigarette Smoking" presented at Coresta Conference	65

EXHIBITS (Cont'd.)

DEPOSITION		
NUMBER	DESCRIPTION	PAGE
11 -	Memorandum to R.A. Blevins, Jr. from Jerry R. Moore dated July 3, 1973	74
12 -	Memorandum to R.A. Blevins, Jr. from Claude E. Teague dated July 18, 1973	75
13 -	"New Product/Merchandising Directions, A Three Year Action Plan"	80
14 -	"Implications and Activities Arising from Correlation of Smoke pH with Nicotine Impact, other Smoke Qualities, and Cigarette Sales"	110
15 -	"MBO Performance Report" dated 11/30/77	113
16 -	Inter-office Memorandum to Doctor D.H. Piehl from T.A. Perfetti dated January 5, 1978	114
17 -	Inter-office Memorandum to Doctor D.H. Piehl from C.R. Green dated August 17, 1978	116
18 -	Letter to Horace R. Kornegay from American Cancer Society dated January 19, 1971	119
19 -	PRIVILEGED MATERIAL REDACTED	123
20 -		128
21 -	Document dated March 19, 1970	137
22 -	"Meeting with Doctor Helmut Wakeham, Vice-President and Director of Research, Philip Morris, Inc., 10th September, 1970"	138
23 -	Memorandum to H. Wakeham from J. F. Cullman dated December 8, 1970	142
24 -	Letter to Freddy Homburger, M.D. from William U. Gardner, Ph.D., dated February 13, 1974	150

EXHIBITS (Cont'd.)

DEPOSITION		
NUMBER	DESCRIPTION	PAGE
25 -	PRIVILEGED MATERIAL REDACTED	153
26 -	Letter to Thomas F. Ahrensfield from Patrick M. Sirridge dated November 24, 1981	153
27 -	Letter to Doctor Alex Spears from Bog Seligman dated March 31, 1980	153
28 -	PRIVILEGED MATERIAL REDACTED	200

QUESTIONS WITNESS WAS INSTRUCTED NOT TO ANSWER:

(NONE)

INFORMATION TO BE SUPPLIED:

(NONE)

STIPULATIONS

Pursuant to notice to take video deposition, the deposition of Murray Senkus, Ph.D., was taken before Patricia Reid, Notary Public and Court Reporter. The deposition was taken at the law offices of Womble, Carlyle, Sandridge & Rice, 200 West Second Street, Conference Room 11-A, Winston-Salem, North Carolina, beginning at 9:14 o'clock a.m. on Thursday, July 26, 2001.

Reading and signing of the deposition was requested by counsel.

produced by RJRTC

in

HUMPHREY

52614 7354

1 MURRAY SENKUS, PH.D.,
2 having first been duly sworn, was
3 examined and testified as follows:
4

5 EXAMINATION

6 BY MR. MCCLAIN:

7 Q. Doctor Senkus, we introduced ourselves off
8 the record, but my name is Ken McClain, and I'll be asking
9 you some questions. I represent a man by the name of David
10 Burton who has a lawsuit against the Reynolds Tobacco
11 Company

12 Do you have any understanding about this lawsuit
13 that has been brought?

14 A. I do not.

15 Q. You were an employee of the Reynolds Tobacco
16 Company for a time. Is that true?

17 A. Yes, I was.

18 Q. Can you describe for the jury, please, the
19 jobs you had at Reynolds?

20 A. I started out in 1951 as the Director of
21 Chemical Research. Then in 1958 -- thereabouts -- I became
22 Assistant Director of Research. In 1964, I became Director
23 of Research. 1975, I became Director of Scientific Affairs
24 and retired on August 31, 1979.

25 Q. Can you tell us, please, what your

Produced by RJRTC

52614 7355

1 educational background is?

2 A. I have a Bachelor's and Master's of Science
3 from the University of Saskatchewan -- that was in 1936
4 -- and then a Ph.D. in organic physical chemistry from the
5 University of Chicago in 1938.

6 Q. Can you tell us, please, upon your retirement
7 whether you did any consulting for tobacco company lawyers?

8 A. I did.

9 Q. Who did you do consulting for?

10 A. This was with Shook, Hardy & Bacon in Kansas
11 city.

12 Q. And do Shook, Hardy & Bacon lawyers represent
13 tobacco companies regularly in lawsuits brought by smokers?

14 A. I don't know. What do you mean "regularly"?

15 Q. Is that some of the ---

16 Do they do that sometimes?

17 A. They do, yes. Definitely.

18 Q. And you were employed by them as a
19 consultant. Is that true?

20 A. As a consultant.

21 Q. Yes. And did you have a regular monthly
22 payment from them as a consultant, Doctor Senkus?

23 A. As I remember it, I may or may not have; but
24 I submitted reports -- expense account reports.

25 Q. Can you tell me how long your relationship

Produced by R.H.C.

IMPRINT

1 with Shook, Hardy & Bacon went on, Doctor Senkus?

2 A. Starting about '79. It was the end of the
3 year. Maybe 1980 through about 1982.

4 Q. During this time period, did you assist other
5 executives of the tobacco industry in research projects
6 regarding smoking and health?

7 A. I was involved in that particular connection
8 with Shook, Hardy & Bacon. I was involved in, say,
9 committees which did have as members people from other
10 tobacco companies.

11 Q. Do you recall a man by the name of Doctor
12 Alex Spears?

13 A. Yes.

14 Q. He subsequently became the president of
15 Lorillard Tobacco Company, did he not?

16 A. That's right.

17 Q. At one time he had a position similar to
18 yours as Director of Research for Lorillard?

19 A. Yes.

20 Q. He was a colleague of yours in that way?

21 A. Yes.

22 Q. And did you assist him with projects when
23 working for Shook, Hardy & Bacon?

24 A. We worked together, yes.

25 Q. Following your completion of your consulting

Produced by RJRTC
in
HUMPHREY

52614 7357

1 arrangement with Shook, Hardy & Bacon, what did you do?
2 What have you done with your time?

3 A. Well, I went to Indonesia with the
4 International Executive Service Corps, and I spent about
5 seven years in Indonesia.

6 Q. All right. And have you done some consulting
7 for foreign tobacco companies since 1982, Doctor Senkus?

8 A. Well, if you regard Indonesia a foreign
9 tobacco company, I would say yes.

10 Q. And what did you do there?

11 A. I assisted them in improving their research
12 facilities and assisted the tobacco company there to improve
13 their library and their research capabilities.

14 Q. And when did your involvement in Indonesia
15 end?

16 A. About 1986 -- '87.

17 Q. And since that time, have you been truly
18 retired?

19 A. No, I have not.

20 Q. What have you been doing since that time?

21 A. I was a consultant working with Womble,
22 Carlyle, Sandridge & Rice.

23 Q. And that's another law firm?

24 A. Yes.

25 Q. And do they represent tobacco companies?

Produced by LTRC

UNRECORDED

1 A. Yes.

2 Q. Which tobacco companies do they represent?

3 A. I guess they represent Reynolds, for one.

4 Q. And how long has that consultancy with Womble
5 Carlyle gone on?

6 A. It ended at the end of March.

7 Q. Of 2001?

8 A. 2001.

9 Q. And was your consultancy with Womble Carlyle
10 from 1987, then, until 19-- or 2001?

11 A. Yes.

12 Q. All right. And were you paid a regular
13 stipend from them?

14 A. Yes.

15 Q. How much were you paid by them on a regular
16 basis?

17 A. Let's see. Thirty-seven hundred dollars
18 (\$3,700.00) a month. It was a limited time.

19 Q. Okay. And how many hours did you have to
20 work for that stipend?

21 A. Sixty-two (62) hours a month.

22 Q. Sixty-two (62) hours a month. And did you
23 receive other compensation for special projects?

24 A. No, not that I can recall.

25 Q. Did you work for any other tobacco companies

produced by RJRTC

INTERVIEW

1 or lawyers representing tobacco companies during that time
2 period -- 1987 through March of 2001?

3 A. No. No.

4 Q. Exclusively, then, for Womble Carlyle?

5 A. Yeah, Womble, uh-huh.

6 Q. And what did you do for them during that time
7 period?

8 A. I just kept them updated on developments in
9 the tobacco field. Like, for example, I -- I kept in touch
10 with the Federal Trade Commission and the reports that they
11 issued, and I kept abreast of the literature. That's two
12 things that I can recall I was doing.

13 Q. I want to take you back near the beginning of
14 your career with Reynolds to something that's called the
15 Frank Statement. You're familiar with that document?

16 A. Yes, Uh-huh.

17 MS. MCDOLE: I'm going to object to this. The
18 purpose of this deposition is supposedly to depose this
19 witness on documents that were formerly privileged that the
20 court has held are not privileged, and this document has
21 always been available. This document has been available
22 throughout the course of the Burton litigation. There is no
23 reason why you couldn't have taken this man's deposition
24 previously if this is what you were going to ask him about.

25 Q. BY MR. MCCLAIN: Are you familiar with the

1 document called the Frank Statement?

2 A. Yes, uh-huh.

3 MR. MCCLAIN: Let me ask the reporter to mark what
4 is identified as the Frank Statement.

5 (Deposition Exhibit 1 was marked for
6 identification.)

7 A. (Reviewing document.)

8 Q. BY MR. MCCLAIN: Are you familiar with this
9 document, Doctor Senkus?

10 A. Yes. I'm looking at it.

11 MS. MCDOLE: I think he's reading it. Let him
12 read it.

13 A. (Reviewing document.)

14 Q. BY MR. MCCLAIN: Have you read it?

15 A. I scanned it.

16 Q. Okay. You have seen it before?

17 A. Yes.

18 Q. This was published in 1954?

19 A. Yes.

20 Q. And it was published by what was called the
21 Tobacco Industry Research Committee. Do you see that at the
22 bottom?

23 A. Yes.

24 Q. T.I.R.C. Was the Reynolds Tobacco Company a
25 member of the Tobacco Industry Research Committee?

1 A. Yes.

2 Q. And, subsequently, did the Tobacco Industry
3 Research Committee change its name to the Council of Tobacco
4 Research?

5 A. Yes.

6 Q. Or C.T.R.?

7 A. Yes.

8 Q. And you're familiar with that group?

9 A. Yes.

10 Q. And you were a member of C.T.R. from time to
11 time?

12 A. I was on a technical committee.

13 Q. On behalf of Reynolds?

14 A. Yes.

15 Q. Okay.

16 A. Well, actually, on behalf of the industry, I
17 guess you would call it.

18 Q. All right. And, Doctor Senkus, it says here,
19 among other things, that "We accept an interest in people's
20 health as a basic responsibility, paramount to every other
21 consideration in our business." Did you read that?

22 A. Yes.

23 Q. And the business that they are talking about
24 is the business of selling cigarettes. Is that right?

25 A. That's right.

Produced by RJRTC

in
HUMPHREY

52614 7362

1 MS. MCDOLE: Well, objection. Objection. You
2 haven't established any foundation that this witness wrote
3 the document or when he saw it.

4 Q. BY MR. MCCLAIN: It's true, is it not, Doctor
5 Senkus, that the companies involved were in the business of
6 selling tobacco or cigarettes?

7 A. Repeat that, please.

8 Q. Yes. The companies identified as being
9 members of the Tobacco Industry Research Committee were
10 either producers of tobacco or cigarette manufacturers?

11 A. Repeat that, please.

12 Q. Would you look at the list of the names of
13 the members of the --

14 A. Yes. Right here.

15 Q. -- Tobacco Industry Research Committee?

16 A. Uh-huh.

17 Q. All right. Those companies that are listed
18 produced or distributed tobacco or manufactured cigarettes,
19 did they not?

20 A. Yes.

21 Q. And so when they say that "We accept an
22 interest in people's health as a basic responsibility,
23 paramount to every other consideration in our business," the
24 business they're referring to is the sale of cigarettes?

25 MS. MCDOLE: Objection.

produced by RJRT

EXHIBIT

52614 7363

1 Q. BY MR. MCCLAIN: Isn't that true?

2 MS. MCDOLE: Objection. He didn't -- you haven't
3 established that he wrote this document or he knows about
4 who wrote the document. You can ask him his understanding.
5 I don't think you can ask him that question.

6 Q. BY MR. MCCLAIN: Go ahead, Doctor Senkus.

7 A. Repeat ---

8 MR. AVRAM: Repeat the question for him, please.

9 MR. MCCLAIN: No.

10 Q. BY MR. MCCLAIN: Do you understand my
11 question?

12 A. I'm pondering it.

13 Q. All right. Take your time.

14 A. Okay. Could you repeat it again, please?

15 Q. The business they refer to is the sale of
16 cigarettes, is it not?

17 A. Yes.

18 Q. Now it says under number 1 --

19 MS. MCDOLE: Which number 1?

20 Q. BY MR. MCCLAIN: On the -- in -- it says in
21 the second column -- if you'll look over with me, it says,
22 "Regardless of the record of the past, the fact that
23 cigarette smoking today should even be suspected as a cause
24 of a serious disease is a matter of deep concern to us."

25 Do you see that?

Produced by RJRTC

in
EXHIBIT

1 A. In column --

2 Q. Two.

3 A. To the right?

4 Q. Yes.

5 A. This column?

6 Q. Yes. Beginning with the sentence that reads
7 "Regardless." Do you see where I am? It's toward the top
8 before the numbers.

9 A. Oh, yeah. "Regardless." Yes. Okay.

10 Q. All right. And it says, going farther, "Many
11 people have asked us what we are doing to meet the public's
12 concern aroused by the recent reports. Here is the answer:
13 we are pledging aid and assistance to the research effort
14 late -- into all phases of tobacco use and health. The
15 joint financial aid will be, of course, in addition to what
16 is already being contributed by individual companies."

17 Did I read that accurately?

18 MS. MCDOLE: Can I have that read back, please?

19 (Question read back by court reporter.)

20 MS. MCDOLE: Objection to the reading. It is
21 inaccurate.

22 Q. BY MR. MCCLAIN: Doctor Senkus?

23 A. Well, let me ask the people on the left --
24 right here -- (Reviewing document.) I want to be sure I
25 understand the question here.

produced by RJRTC

52614 7365

1 Q. All I asked is did I read it accurately.

2 A. So what exactly are you asking me?

3 Q. Do you see Number 1?

4 A. "We are pledging aid" -- yes, I see that.

5 Q. All right. All right. Do you see the words
6 that are there?

7 A. Yes.

8 Q. All right. Are you familiar with them?

9 A. I read them -- yes.

10 Q. You've read them before?

11 A. Well, I don't recall reading it the last
12 twenty (20) years; so, specifically, I don't recall this
13 particular Item Number 1.

14 Q. All right.

15 A. But as I read it now -- so okay. I read this
16 Item Number 1. So what is the question?

17 Q. So the question is, do you recall back in
18 about this time the industry pledging aid and assistance to
19 the research efforts into all phases of tobacco use and
20 health?

21 A. That, as I understood it, was the intent of
22 the Tobacco Industry Research Committee.

23 Q. Now look down at 3.

24 A. Okay.

25 Q. It says, "In charge of the research

Produced by RJRTC

1 activities of the committee will be a scientist of
2 unimpeachable integrity and national repute."

3 Do you see that?

4 A. Yes.

5 Q. "In addition, there will be an advisory board
6 of scientists disinterested in the cigarette industry. A
7 group of disinterested men with -- from medicine, science,
8 and education will be invited to serve on this board. These
9 scientists will advise the committee on its research
10 activities."

11 A. Yes. I understand that.

12 Q. Okay. And was that your understanding of

13 what was --

14 A. Yes.

15 Q. -- to be attempted?

16 A. Yes.

17 Q. And you did have some role --

18 A. Yes, I did.

19 Q. -- at C.T.R. as time went on?

20 A. Yes, I did.

21 Q. And we're going to come to that.

22 A. Yes.

23 Q. Let me turn to an area of your work in
24 research, and that's the subject of nicotine. You have done
25 some work in regard to nicotine?

1 A. Yes.

2 Q. Do you recall when you first began to
3 investigate the issue of the role of nicotine and smoking?

4 A. Yes.

5 Q. When was that?

6 A. Well, the way you ask that question --
7 investigate the role of nicotine and smoking -- I would
8 -- the way I would put it -- investigate the role of
9 nicotine as the smoking preference.

10 Q. When did you begin that?

11 A. Oh, it started, I guess, about 19-- I'm just
12 guessing -- 1960.

13 (Deposition Exhibit 2 was marked for
14 identification.)

15 Q. BY MR. MCCLAIN: Okay. Let me show you a
16 document. This is -- we've marked this as Exhibit 2.

17 A. (Reviewing document.) April --

18 MS. MCDOLE: Let me just interject here. Again, I
19 object to the -- questioning the witness on this document.
20 This document has been generally available. It's beyond the
21 scope of what the judge allowed for this particular
22 deposition. There's no reason why this deposition couldn't
23 have been taken years ago.

24 MR. MCCLAIN: Are you representing that this was
25 produced in the Britt litigation?

1 MS. MCDOLE: Whether it was specifically produced
2 or whether it was made --

3 MR. MCCLAIN: It was not.

4 MS. MCDOLE: Excuse me. Excuse me. Whether it
5 was specific --

6 MR. MCCLAIN: It was not.

7 MS. MCDOLE: Excuse me. Whether it was
8 specifically produced or whether it was made available in
9 the depository, it was available for you to have and to
10 question this witness about.

11 Q. BY MR. MCCLAIN: Doctor Senkus, are you
12 familiar with this document?

13 A. Yes.

14 Q. You're the author of it?

15 A. Yes.

16 Q. This is a report, as I read it, dated April
17 4th, 1960, reporting the -- a conference on the
18 cardiovascular effects of nicotine and smoking in New York
19 City?

20 A. Yes.

21 Q. And did representatives of the industry
22 attend this meeting, Doctor Senkus, as you recall it?

23 A. I specifically at this point don't recall who
24 was there.

25 Q. If you'll look under "Attendance." See if

Produced by RJRTC

in
HUMPHREY

52614 7369

1 that refreshes your recollection. Can you read that?

2 A. Yes, uh-huh.

3 Q. To yourself.

4 A. Uh-huh. (Reviewing document.) Okay, uh-huh.

5 Q. Were other members of the tobacco industry
6 present at the meeting?

7 MR. AVRAM: Excuse me. For the record, have you
8 had a chance to read the document?

9 THE WITNESS: Not the whole document. He's
10 looking at one paragraph here. Do you want to see it?

11 MR. AVRAM: No. No. I just wanted to make sure
12 you've had a chance to read it.

13 THE WITNESS: Yeah, uh-huh.

14 A. Notice I'm not giving any names here. Only
15 giving numbers of people.

16 Q. BY MR. MCCLAIN: Right. And the companies
17 they were with?

18 A. Yes, uh-huh.

19 Q. Philip Morris, Liggett & Myers, U.S. Tobacco.

20 A. Uh-huh.

21 Q. Reynolds.

22 A. Yes.

23 Q. On the second page, if you'll look, it talks
24 about the effects of nicotine on various parts of the body.
25 Do you see where I am?

1 A. Yes, I see it.

2 Q. Would you like an opportunity to review that
3 for a moment?

4 A. The whole page?

5 Q. Yes.

6 A. (Reviewing document.)

7 MS. MCDOLE: Well, it actually starts on the
8 bottom of the first page, Doctor Senkus. You may want to --
9 it actually starts on the bottom of the first page.

10 A. (Reviewing document.)

11 Q. BY MR. MCCLAIN: Have you reviewed this,
12 Doctor Senkus? Have you reviewed this?

13 A. Yes. I've scanned it.

14 Q. All right. And first of all, who was this
15 memo directed to?

16 A. Mr. Hoover, Vice-President, Director of
17 Research.

18 Q. Mr. Hoover was the Director of --

19 A. At that time, was -- 1960 -- yeah. He was
20 Vice-President -- Vice-President and Director of Research.

21 Q. All right. And in this memo, you talk about
22 the effects of smoking on the heart?

23 A. Yes.

24 Q. You have effects of smoking on blood
25 circulation in the skin?

52614 7371

1 A. Yes.

2 Q. And effects of smoking on coronary
3 circulation?

4 A. Yes.

5 Q. And in each of these paragraphs, you report
6 on the effect that nicotine has on those bodily
7 functions --

8 A. Yes.

9 Q. -- or organs, correct?

10 A. Uh-huh.

11 Q. And was -- was it true --

12 MS. MCDOLE: Well, I object to that. That's not
13 correct.

14 Q. BY MR. MCCLAIN: Was it true --

15 MS. MCDOLE: That's an -- that's in -- listen to
16 what he says. That's an inaccurate characterization.

17 MR. MCCLAIN: I object to you coaching the
18 witness, as you do repeatedly in these depositions. It's
19 absolutely unacceptable; and if you continue to do it, we'll
20 have to call Judge Lunstrom.

21 MS. MCDOLE: That's fine. Then we clarify exactly
22 what the purpose of this deposition is.

23 MR. MCCLAIN: I'd be happy to do that. I'm sure
24 that he would instruct you since you're always at odds with
25 his direction.

1 MS. MCDOLE: Oh, really?

2 Q. BY MR. MCCLAIN: Can you -- Doctor Senkus,
3 can you tell us -- was this, by the note, placed in the
4 library of the ---

5 A. Yes, it was.

6 Q. -- Reynolds Tobacco Company?

7 A. It was placed in the library.

8 Q. And what was the purpose of placing such a
9 memo in the library?

10 A. Well, we had a reporting system; and this is
11 our Research Department Memorandum, and all of the R.D.M.'S
12 were put in the library.

13 Q. And R.D.M.'S are what?

14 A. Research Department Memorandum.

15 Q. I see. Would it be your normal practice when
16 attending a conference on nicotine, as an example, or the
17 health effects of smoking in some other regard to write such
18 a memorandum?

19 A. When we attended meetings, members of the
20 staff usually when we returned would write a report on the
21 meeting.

22 Q. And how were these memos utilized within the
23 Reynolds Research Department?

24 A. For the most part, they went in the files.

25 Q. Did you review them from time to time?

1 A. This memorandum -- I think -- after it went
2 in the files, I don't think I went back to look at it
3 perhaps more than once.

4 Q. All right. Can you tell me -- was this the
5 beginning or about at the time of the beginning of your
6 research regarding nicotine?

7 A. No. No. No. I think that -- I would say
8 that this interest in nicotine came later.

9 Q. You previously said that it was, you thought,
10 in 1960?

11 A. 1960, yeah.

12 Q. So it's the same year?

13 A. In the sixties?

14 Q. In the sixties?

15 A. Uh-huh.

16 Q. All right. And so you began ---

17 This was the first conference you attended on
18 nicotine?

19 MS. MCDOLE: Well, objection.

20 Q. BY MR. MCCLAIN: All right. Let's go
21 back --

22 MS. MCDOLE: Objection to the characterization.

23 Q. BY MR. MCCLAIN: Was there an earlier
24 conference?

25 A. There may have been. I don't recall.

produced by RJRTC

in

HUMPHREY

52614 7374

1 Q. Okay. So there may have even been an earlier
2 conference than this?

3 A. There may have been. I don't recall.

4 Q. And it was after this point that the bulk of
5 your work on nicotine began. Is that right?

6 A. It was after this, I think. I'm not sure.

7 MR. MCCLAIN: Let's mark this.

8 (Deposition Exhibit 3 was marked for
9 identification.)

10 A. (Reviewing document.)

11 Q. BY MR. MCCLAIN: Doctor Senkus, this is a
12 document which bears your name. Did you have a role in
13 preparing it?

14 MS. MCDOLE: Let me object first, Doctor Senkus.
15 This document has been available and could have been used
16 in a deposition for this witness years before this time.
17 There's no reason to take the deposition well after the
18 discovery cutoff on a document that was available
19 previously.

20 A. I didn't follow what --

21 Q. BY MR. MCCLAIN: She's not instructing you
22 not to answer. Her objections are for the record, Doctor
23 Senkus.

24 A. Okay.

25 Q. The question was did you have a role in

1 preparing this document.

2 A. Not this document.

3 Q. All right. It bears your name?

4 A. It was addressed to me.

5 Q. All right. And was this a document you
6 reviewed during the ordinary course of your business?

7 A. Yes.

8 Q. Do you recall, Doctor -- look over at Page
9 11, would you, of this document?

10 A. (Reviewing document.)

11 Q. Do you see it says, "It must be assumed that
12 nicotine is the *sine qua non* of smoking"?

13 A. Yes.

14 Q. What does that mean?

15 MS. MCDOLE: Objection. It's not his document.
16 He can talk about what he thought about it.

17 MR. MCCLAIN: I -- it is inappro-- you can make an
18 objection for the record. You can't coach the witness this
19 way.

20 MS. MCDOLE: I'm not coaching --

21 MR. MCCLAIN: It's absolutely inappropriate and
22 unethical, and you know all about that subject; so please
23 stop doing it.

24 MS. MCDOLE: The question is inappropriate.

25 A. To me, it means that nicotine is an important

1 component of smoke -- of tobacco as far as smoking is
2 concerned.

3 Q. BY MR. MCCLAIN: All right. And it's -- in
4 this document they have a mathematical formula --

5 A. Yeah.

6 Q. -- to predict smoking behavior --

7 A. Uh-huh.

8 Q. -- from the -- from various factors that go
9 into that behavior. Is that correct?

10 MS. MCDOLE: Objection to the characterization.

11 A. That's what he proposes to do in this
12 memorandum.

13 Q. BY MR. MCCLAIN: And the discussion we're
14 having about the *sine qua non* of smoking is under the
15 "Habituation factor," is that correct -- in regard to
16 nicotine? That's where he places it in this memo?

17 A. Well, that's his opinion. That would not be
18 my opinion.

19 Q. All right. And when we say "his opinion" --
20 whose opinion is this?

21 A. Doctor Teague.

22 Q. Was Doctor Teague working for you at the
23 time?

24 A. Yes, he was.

25 Q. And what was his job?

52614 7377

1 A. Well, to keep abreast of problems in the
2 company and advise me and also do some supervision of some
3 of the subordinates.

4 Q. And how many employees did you have in the
5 research department in 1969, as an example?

6 A. Maybe at this point, there may have been five
7 hundred (500).

8 Q. I see. And was Doctor Teague one of the most
9 senior members --

10 A. Yes.

11 Q. -- of the research --

12 A. I recall that he was Assistant Director of
13 Research.

14 Q. He was your right-hand man, so we say?

15 A. You could call it that.

16 Q. And you respected him?

17 A. I respected him.

18 Q. What was his -- what was his degree in?

19 A. Ph.D. in organic chemistry from U.N.C.

20 Q. The University of North Carolina?

21 A. Yes, uh-huh.

22 Q. And when he offered this opinion, as you say,
23 to you --

24 A. Uh-huh.

25 Q. -- did you reprimand him in any way?

1 A. No.

2 Q. -- or demote him?

3 A. No.

4 Q. He continued to be your right-hand man?

5 A. That's right.

6 Q. Looking at page 12 under "II. Evaluation of
7 the role and use of nicotine" --

8 A. Yes.

9 Q. "If, as stated repeatedly above, nicotine is
10 believed to be the *sine qua non* of smoking or use of
11 substitute products then: (1) this should be verified, and
12 (2) the possible health hazards associated with ingestion of
13 nicotine in the minimum quantities required should be
14 thoroughly evaluated. This will require careful review of
15 published data and, very probably, further laboratory
16 research."

17 Did I read that accurately?

18 A. Yes.

19 Q. Did the Reynolds Company do a careful review
20 of the published data?

21 A. Yes.

22 Q. Was that documented anywhere? Was it written
23 in one of these memos?

24 A. Well, actually, they were reviewed; but was
25 this review documented? I don't recall that it was done.

1 Q. Let me ask you this, Doctor Senkus: did the
2 Reynolds Research Department ever publish a paper -- as an
3 example, "This is our review of the nicotine research" --
4 for the general public?

5 A. I don't recall that we ever did.

6 Q. Did you ever do any laboratory research on
7 the effect of nicotine at Reynolds?

8 A. What kind of research would you say? I mean,
9 there's chemical research and there are other kinds of
10 research. You're asking me what kind of research?

11 Q. Well, I'm -- what kind of research is he
12 referring to -- do you know? -- when he says --

13 A. He --

14 Q. -- "careful review of the published data and,
15 very probably, further laboratory research"?

16 A. Well, as I read this statement, I would say
17 that a review of not only our research but other research;
18 and it could have meant a wide variety of research.

19 Q. Did, in fact, that research occur?

20 A. Did that review occur are you saying?

21 Q. You already answered that question. The
22 research now.

23 A. Yeah.

24 MS. MCDOLE: Well, objection. I think the witness
25 has told you that he thinks it's a review --

1 MR. MCCLAIN: You can state whatever the objection
2 is without coaching the witness by a speaking objection. It
3 is inappropriate.

4 MS. MCDOLE: I am not coaching the witness. The
5 witness said that he thought the careful review went with
6 the laboratory research as well as the published data.

7 MR. MCCLAIN: Well, I'll let the witness testify.

8 Q. BY MR. MCCLAIN: Tell me -- tell me about the
9 research portion. What research was done that differed from
10 reviewing what had been done by others? Was there basic
11 research done by Reynolds on nicotine as a result of this
12 memorandum?

13 A. Whatever research we did in-house had to do
14 with chemical analytical research -- chemical.

15 Q. Chemical -- not its effect upon humans?

16 A. Not effect on humans.

17 Q. And so Reynolds did not do research to
18 determine the effect of nicotine on humans. Is that
19 correct?

20 A. Not that I can recall. Effect on humans in-
21 house. Not that I can recall.

22 Q. What was I.B.T.?

23 A. I heard that. That was in letters, but I
24 can't place it.

25 (Deposition Exhibit 4 was marked for

produced by RRTC

HUMANITARIAN

52614 7381

1 identification.)

2 Q. BY MR. MCCLAIN: Let me hand you a document
3 and see if it refreshes your recollection.

4 A. (Reviewing document.) I just -- at this
5 moment, I can't place the name of the institution. I'd have
6 to have a connection with a name to be sure.

7 Q. All right. Is this ---

8 Do you believe that this is a response to
9 doctor Teague's suggestion that research needs to be done
10 regarding nicotine?

11 MS. MCDOLE: Objection. No basis. No foundation.

12 A. Not necessarily.

13 Q. BY MR. MCCLAIN: It says, "As a result of
14 discussions with Doctor Teague and with section heads, the
15 following are suggested as possible I.B.T. undertakings."

16 Do you see that?

17 A. This statement by Doctor Laurene may or may
18 not be related in any way, shape, or form with the long
19 report that Doctor Teague wrote in 1960.

20 Q. It's the same Doctor Teague they're referring
21 to?

22 A. Yes.

23 Q. All right. And Doctor Laurene was another
24 researcher in the research department?

25 A. He was at this point, I think, director of

1 the chemical division -- director of chemical research.

2 Q. So he was another one of your --

3 A. Yes.

4 Q. -- highly valued employees?

5 A. Yes. Yes.

6 Q. And he had other employees under him?

7 A. Yes, he did.

8 Q. The suggestions being made here are that a
9 number of things be studied, including "2. Absorption of
10 nicotine in the mouth versus the lungs (blood levels, urine
11 levels)."

12 Do you see that?

13 A. Uh-huh.

14 Q. "3. Differences in nicotine's impact from
15 free nicotine and bound nicotine; effects of ph on smoke
16 (blood levels, urine levels, smoking tests)."

17 A. Uh-huh, yeah.

18 Q. And "4. Habituating levels of nicotine (how
19 low can we go?)."

20 Do you see that?

21 A. Uh-huh.

22 Q. Were those all subjects that were of concern
23 to the research department at reynolds while you were its
24 head, Doctor Senkus?

25 A. Well, as expressed here by doctor laurene,

1 these were ideas that needed attention.

2 Q. Now one of the other things that I mentioned
3 in number one is the subject of ammonia.

4 A. Uh-huh.

5 Q. And that was another one of your research
6 subjects, was it not?

7 A. Yes, uh-huh.

8 Q. We're going to come to that. But ammonia is
9 important in regard to nicotine, is it not?

10 MS. MCDOLE: Objection to the form.

11 A. Well, ammonia plays a role. It's an
12 important component of tobacco.

13 Q. BY MR. MCCLAIN: Of cigarettes?

14 A. Yes.

15 Q. It's not a normal component of tobacco, is
16 it?

17 A. Yes, it is.

18 Q. Is it added to cigarettes as well as being a
19 normal component?

20 A. Some companies may add it, yes.

21 Q. All right. We're going to come to that, and
22 you can --

23 A. Uh-huh.

24 Q. That was -- that was ---

25 The role of ammonia and its ability to impact

1 nicotine and its levels was something you investigated, am I
2 right, Doctor Senkus?

3 A. We looked into it, yes, uh-huh.

4 Q. All right.

5 MS. MCDOLE: For the record, I object to the use
6 of Exhibit 4. Again, this could have been done years ago in
7 examining this witness.

8 Q. BY MR. MCCLAIN: I'm going to show you
9 another document, Doctor Senkus.

10 MS. MCDOLE: Why don't you have it marked as an
11 exhibit first.

12 Q. BY MR. MCCLAIN: Why don't you give that to
13 your lawyers -- or the lawyers that are here for you --
14 however you want to refer to them. You may not want to
15 claim them.

16 (Deposition Exhibit 5 was marked for
17 identification.)

18 MS. MCDOLE: Object to the use of Exhibit 5.
19 Again, it's a document that's been generally available,
20 and the witness could have been asked about this document
21 years ago in another deposition that was properly taken in
22 the course of discovery.

23 Q. BY MR. MCCLAIN: Do you see that this is
24 marked "Secret," Doctor Senkus?

25 A. Yes.

1 Q. And "Confidential"?

2 A. Yes.

3 Q. "R.J.R." At the top?

4 A. Yes.

5 Q. This is not information that was published,
6 was it?

7 MS. MCDOLE: Well, objection. He hasn't had a
8 chance to look at the document --

9 Q. BY MR. MCCLAIN: Look at it.

10 MS. MCDOLE: -- to see what information is in the
11 document.

12 Q. BY MR. MCCLAIN: Look at it and tell us after
13 you've reviewed it. My question is, was this ever published
14 anywhere, Doctor Senkus -- this memorandum?

15 MS. MCDOLE: Well, that's a different question.
16 Are you talking about whether this memorandum was published
17 or information in the memorandum was published? That was
18 the first question.

19 A. (Reviewing document.)

20 Q. BY MR. MCCLAIN: This is another document
21 by --

22 A. Teague.

23 Q. -- by Doctor Teague of March 28th of 1972.
24 Am I right?

25 A. YES.

produced by RJRTC

52614 7386

1 Q. In it -- if you'll look over at page -- the
2 third page of the document.

3 A. (Reviewing document.) Yes.

4 Q. It says, "I believe that for the typical" --
5 do you see -- second paragraph?

6 A. Uh-huh.

7 Q. "I believe for the typical smoker nicotine
8 satisfaction is the dominant desire, as opposed to flavor
9 and other satisfactions. There are wide varieties of food,
10 beverages and confections from which a variety of flavor and
11 other satisfactions may be obtained, if that were the
12 dominant desire, but tobacco products alone provide nicotine
13 satisfaction -- therefore, that is the primary reason
14 smokers smoke." Right?

15 A. Yes.

16 Q. And was that Doctor Teague's view in 1972, as
17 you understood it?

18 A. Yes.

19 Q. Now, is the handwriting on this document
20 yours, Doctor Senkus? If you'll look at the first page.

21 A. (Reviewing document.) No. At the very --
22 that's his writing -- his handwriting.

23 Q. That's his handwriting?

24 A. Yeah.

25 Q. Mr. --

Produced by RJCRC

52614 7387

1 A. Teague.

2 Q. Doctor Teague. All right.

3 A. Notice there's a "CT" there?

4 Q. On the top? Can you read that notation?

5 What does it -- can you make out his handwriting?

6 A. I can't make out what it says.

7 Q. Something about "Bob Rock"?

8 A. Bob Rickholz. He's in marketing.

9 Q. I see. So was Mr. Rickholz consulted
10 regarding your --

11 A. As far as I know -- I don't remember any
12 contact with him.

13 (Deposition Exhibit 6 was marked for
14 identification.)

15 Q. BY MR. MCCLAIN: We have marked this document
16 as Exhibit 6.

17 A. (Reviewing document.)

18 Q. This is a document from 1972, I believe --
19 April 14th of '72 -- from Mr. Teague again.

20 A. Uh-huh.

21 Q. Do you see that?

22 MS. MCDOLE: Doctor Teague.

23 Q. BY MR. MCCLAIN: Doctor Teague. Your right-
24 hand man, Doctor Teague?

25 A. Yes.

1 Q. We've talked about him?

2 A. Yes.

3 Q. And this is a Research Planning Memorandum on
4 the nature of the tobacco business and the crucial role of
5 nicotine therein. Do you see that?

6 A. Yes.

7 Q. Was this a subject that the Research
8 Department at Reynolds was looking at beginning in the
9 sixties, continuing on through the seventies?

10 MS. MCDOLE: What subject?

11 Q. BY MR. MCCLAIN: The crucial role of nicotine
12 to the tobacco business.

13 A. This is written by Doctor Teague and -- yeah.
14 He was full of ideas, and he felt a responsibility to write
15 reports and advise for consideration.

16 Q. Let's look over at the first page, if we can.
17 Have you had time to review this, Doctor Senkus?

18 A. Right now I haven't.

19 Q. Okay. You've seen it, though, before?

20 A. Yes.

21 Q. Go ahead and review it to just refresh your
22 recollection, though, so I can ask you some questions about
23 it.

24 A. (Reviewing document.) Okay. I've reviewed
25 Page 1.

1 Q. Okay. We'll take it ---

2 Would you like to do it just page by page?

3 A. Okay.

4 Q. All right. In the first sentence he says,
5 "In a sense, the tobacco industry" -- are you with me?

6 A. Yes.

7 Q. -- "may be thought of as a highly" -- I'm
8 sorry. Let's start again.

9 "In a sense, the tobacco industry may be thought
10 of as being a specialized, highly ritualized and stylized
11 segment of the pharmaceutical industry. Tobacco products,
12 uniquely, contain and deliver nicotine, a potent drug with a
13 variety of physiological effects."

14 Q. What are physiological effects?

15 A. Well, say, a physiological effect I get from
16 alcohol is an uplift.

17 Q. What would be the physiological effects that
18 would be derived from nicotine?

19 A. It varies from person to person. There are
20 just a variety of effects of nicotine.

21 Q. What are the most common?

22 A. It could be -- again, there's such a wide
23 variety. I don't know what the most common would be. If
24 you ask any smoker -- habitual smoker -- if you were to ask
25 what is the effect, he would not be able to put it in words.

Produced by RJRTC

52614 7390

1 To me, it is a depressant. I'm not a regular smoker.

2 So it's varied -- tremendously varied.

3 Q. It says in the next sentence, "Nicotine is
4 known to be a habit" -- I'm sorry -- two sentences down
5 -- "Nicotine" -- I skipped "related alkaloids" and went to
6 "Nicotine is known to be a habit-forming alkaloid."

7 What is an alkaloid?

8 A. Well, it's a whole group of compounds
9 containing, for the most part, nitrogen -- like quinoline
10 and -- quite a number of compounds.

11 Q. It says, "Nicotine is known to be a habit-
12 forming alkaloid, hence the confirmed user of tobacco
13 products is primarily seeking the physiological satisfaction
14 derived from nicotine -- and perhaps other active
15 compounds."

16 A. Uh-huh, yeah.

17 Q. Do you remember talking to doctor teague
18 about this subject in 1972 or thereabouts?

19 A. Well, we had many discussions about smoking
20 in general and nicotine in general.

21 Q. And --

22 A. And I will say this: that I didn't always
23 agree with doctor teague.

24 Q. I understand that. But you did discuss this
25 with him when -- at about the time that he wrote this memo,

1 am I right?

2 A. Yes.

3 MS. MCDOLE: Discussed what with him?

4 Q. BY MR. MCCLAIN: The subject of nicotine
5 being a habit-forming alkaloid.

6 A. Specifically that particular statement I
7 would not remember that I discussed with him -- that
8 particular statement.

9 Q. At that time or ever?

10 A. I don't recall at that time or ever. Habit-
11 forming alkaloid. That's a phrase he used, and -- habit-
12 forming alkaloid.

13 Q. Did you discuss the issue with him at the
14 time that the confirmed user is primarily seeking the
15 physiological satisfaction derived from nicotine?

16 A. Did I discuss that with him?

17 Q. Yes.

18 A. In general, this whole subject that he raises
19 in this report, taking it its entirety, we talked off and on
20 quite a bit.

21 Q. Okay. Look down here. This statement that
22 he makes -- "Thus a product -- thus a tobacco product is" --
23 do you see where I am?

24 A. Uh-huh.

25 Q. "Thus a tobacco product is, in essence, a

Produced by R.H.T.C.

52614 7392

1 vehicle for delivery of nicotine, designed to deliver the
2 nicotine in a generally acceptable and attractive form. Our
3 industry is then based upon design, manufacture and sale of
4 attractive doses -- of attractive dosage forms of nicotine,
5 and our company's position in our industry is determined by
6 our ability to produce dosage forms of nicotine which have
7 more overall value, tangible or intangible, to the consumer
8 than those of our competitors."

9 Did you discuss this general subject with him?

10 A. When you put it in those exact words -- I
11 can't say that we discussed this particular line -- I mean,
12 series of sentences specifically.

13 Q. But the subject was discussed?

14 A. Yeah, the subject was discussed. Yes. Yes.

15 Q. And it was -- you and he together, as the
16 head and your right-hand man, were attempting to formulate
17 productive things for the research department to do; am I
18 right?

19 A. Yes.

20 MS. MCDOLE: Objection to the form.

21 Q. BY MR. MCCLAIN: All right. And one of the
22 things that he was doing in writing memos like this one to
23 you was to propose ideas upon which you both then could
24 derive specific research projects. Am I right?

25 MS. MCDOLE: Objection to the form.

52614 7393

1 Q. BY MR. MCCLAIN: Do you want to hear my
2 question again?

3 A. Yeah. I'm trying to understand your
4 question.

5 Q. Let me state it a different way.

6 A. Okay.

7 Q. Okay? It might be easier. When Doctor
8 Teague would write a memo such as this one and you and he
9 would discuss it, you would do it so that you could plan
10 projects that the Research Department might pursue to
11 advance the interest of the company. Am I right?

12 MS. MCDOLE: Objection to the form.

13 A. Well, the role of research in general is to
14 improve the profitability of the company -- in general --
15 and that -- this question of cigarette acceptability to the
16 consumer is the issue here.

17 Q. BY MR. MCCLAIN: Yes. And look at that last
18 sentence. Come back to it. When he says, "Our company's
19 position in our industry is determined" -- do you see where
20 I am -- the last --

21 A. Yes, uh-huh.

22 Q. -- "Our company's position in our industry is
23 determined by our ability to produce dosage forms of
24 nicotine which have more overall value, tangible or
25 intangible, to the consumer than those of our competitors"

1 -- that was a way to state a problem that then the research
2 department would go out and investigate how to accomplish.
3 Am I right?

4 MS. MCDOLE: Objection to the form.

5 A. (Reviewing document.) I will put it this
6 way: our role was to how best to formulate a cigarette that
7 would be more acceptable to the public than the competitive
8 brand.

9 Q. BY MR. MCCLAIN: And that's what he is
10 talking about here?

11 A. That's what he's talking about.

12 Q. Look on -- look on the next sentence -- "The
13 ~~habituated~~ user of tobacco products is said to derive
14 satisfaction from nicotine." Is that right?

15 A. Yeah. And he put that in quotes there
16 because that's -- satisfaction is kind of a vague term.

17 Q. And this goes -- and the next -- two
18 sentences down talks about the subject you alluded to before
19 -- "For example, in different situations and at different
20 dose levels, nicotine appears to act as a stimulant,
21 depressant, tranquilizer, psychic energizer, appetite
22 reducer, anti-fatigue agent, or energizer, to name but a few
23 of the varied and often contradictory effects attributed to
24 it."

25 A. Yes.

1 Q. That's what you were referring to before?

2 A. Yes.

3 Q. The next sentence that I want to discuss is
4 "Happily." Do you see where I am in the document? The next
5 paragraph.

6 A. (Reviewing document.) Yes.

7 Q. "Happily for the tobacco industry, nicotine
8 is both habituating and unique in its variety of
9 physiological actions, hence no other active material or
10 combination of materials provides equivalent, quote/unquote,
11 'satisfaction.'"

12 Is that, as you understood it at the time,
13 referring back to those lists of contradictory --

14 A. Yeah.

15 Q. -- physiological effects that nicotine was
16 ascribed to have?

17 A. (Nods head affirmatively.)

18 Q. Yes?

19 A. Yeah. Uh-huh. So what is the question
20 again, please?

21 Q. I just was trying to understand what that
22 meant, and I asked for your understanding; and you gave it
23 to me.

24 A. Oh, that first sentence you mean?

25 Q. Yes.

1 A. Uh-huh.

2 Q. And then down to the next -- he again uses
3 that phrase "If nicotine is the *sine qua non* of tobacco
4 products and tobacco products are recognized as being
5 attractive dosage forms of nicotine, then it is logical to
6 design our products -- and where possible, our advertising
7 -- around nicotine delivery rather than tar delivery or
8 flavor."

9 Do you see that?

10 A. Where is that? That same paragraph?

11 Q. It's down on the -- the last paragraph.

12 A. Oh. The very last paragraph. Uh-huh.

13 Q. Doctor Senkus, do you see where I read that?

14 A. (Reviewing document.) As I read this thing,
15 these are ideas -- Doctor Teague's ideas; and he's simply
16 advising and interpreting the role of nicotine in his own
17 mind the best he could.

18 Q. And let me ask you about this: again, this
19 *sine qua non*.

20 A. Okay. Uh-huh.

21 Q. Do you recall him using that phrase?

22 A. Yes, I do.

23 Q. All right. He was fond of that phrase?

24 A. He was. He's kind of a intellectual, you
25 might say.

1 Q. Yes. As -- I'm not -- I don't ---
2 I never studied Latin; but as I understand
3 it, it means it is the central reason. Isn't that the
4 essential meaning of --

5 A. The one and only.

6 Q. The one and only reason. So it's -- it's
7 the ---

8 If nicotine is the one and only reason for
9 the use of tobacco products and tobacco products are
10 recognized as being attractive doses of nicotine -- that
11 would be a correct reading of that sentence. Am I right?

12 MS. MCDOLE: Objection to the form.

13 Q. BY MR. MCCLAIN: As he was using that term --
14 ~~sine qua non~~ -- the one and only?

15 A. Uh-huh.

16 Q. Am I right?

17 A. Yeah. He's saying that that's --

18 Q. The one and only?

19 A. -- the one and only ingredient of tobacco for
20 using cigarettes.

21 Q. Look over at the -- at Page 5, if you would,
22 of this document.

23 A. Uh-huh.

24 Q. It says, "If what we have said about the
25 habituated smoker is true, then products designed for him

1 should emphasize nicotine, nicotine delivery efficiency,
2 nicotine satisfaction, and the like."

3 Do you see where I am?

4 A. Yes.

5 Q. "What we should really make and sell would be
6 the proper dosage form of nicotine with as many built-in
7 attractions and gratifications as possible -- that is, an
8 efficient nicotine delivery system with satisfactory flavor,
9 mildness, convenience, cost, et cetera."

10 Did I read that accurately?

11 A. Yes.

12 Q. Did he talk about that subject with you?

13 A. Actually, what he's doing in this sentence --
14 or in this paragraph is repeating something he has repeated
15 over and over before.

16 Q. And something that you heard him say
17 repeatedly within the department. Am I right?

18 A. In passing.

19 Q. In -- in passing, I'm sure; but it was also
20 the subject of extensive discussion from time to time, too,
21 was it not?

22 MS. MCDOLE: Objection to the form. No
23 foundation.

24 A. There were many other things to deal with,
25 and this may be one of them.

1 Q. BY MR. MCCLAIN: Nicotine was a very
2 important subject, was it not?

3 MS. MCDOLE: Objection to the form.

4 A. Well, it would appear to be at this meeting
5 here; but it was not the only subject.

6 Q. BY MR. MCCLAIN: No. I'm not saying -- but
7 for Doctor Teague, it was the *sine qua non* of your business?

8 MS. MCDOLE: Objection to the form.

9 A. Well, I happen to know that he had other,
10 shall we say, responsibilities; and I would say this -- in
11 the course of a day, this would have been just one of many.

12 Q. BY MR. MCCLAIN: Look -- look at Page 6. He
13 says, "But, again, the picture is not quite all that clear.
14 Critics of tobacco products increasingly allege that smoking
15 is dangerous to the health of the smoker. Part of this
16 alleged danger is claimed to arise from ingesting of
17 nicotine and part is claimed to arise from smoke components
18 or smoke, quote/unquote, 'tar.'"

19 A. Uh-huh.

20 Q. "If, as proposed above, nicotine is the *sine*
21 *qua non* of smoking, and if we meekly accept the allegations
22 of our critics and move towards reduction or elimination of
23 nicotine from our products, then we shall eventually
24 liquidate our business."

25 Did I read that accurately?

Produced by RJRTC

52614 7400

1 A. Yes.

2 Q. As I read this, it would seem to indicate to
3 me that Doctor Teague thought that this was very important.
4 Did he express that idea to you?

5 MS. MCDOLE: Objection to the form -- of what you
6 think about the document.

7 MR. MCCLAIN: Well, let me rephrase that because
8 that's well taken.

9 Q. BY MR. MCCLAIN: What I think is irrelevant.
10 The question is what do you think.

11 When Doctor Teague wrote in this memo that
12 eliminating nicotine from your products would cause you to
13 liquidate your business, what did you think about that,
14 Doctor Sankus?

15 A. That, to me, is of a highly speculative
16 statement to which I would not subscribe.

17 Q. Did you believe that you could eliminate
18 nicotine from cigarettes and not liquidate the business?

19 A. To eliminate nicotine? I would see no point
20 in doing that.

21 Q. Well, he says in this memo that you could not
22 do it and sell cigarettes. Were you of that belief also?

23 A. Well, this is just an idea expressed by
24 Claude Teague; and I do not subscribe to that statement. To
25 me, it is irrelevant. It, to me, has no meaning.

1 Q. Is nicotine irrelevant, in your mind, to the
2 sale of cigarettes?

3 A. It's important component of tobacco.

4 Q. All right. And when he says in the next
5 sentence "If we intend to remain in business and our
6 business is the manufacture and sale of doses of nicotine,
7 then at some point we must make a stand. We should know
8 more, rather than less, than our critics about the
9 physiological effects of nicotine, and we should in all ways
10 scientifically validate and speak to the beneficial effects
11 and satisfactions derived from the use of nicotine.
12 Essentially all commercial drugs give rise to some
13 undesirable side effects, but we continue to use them with
14 great benefit to humanity because of their overriding
15 beneficial effects. Might we not take a leaf from that book
16 in our approach to nicotine? Unless we do, our long-term
17 prospects become unattractive."

18 A. Uh-huh.

19 Q. Did you discuss this subject with Mr. Teague?

20 A. Ummm. You keep asking me this statement over
21 and over again. All I can say is that we talked about the
22 role of nicotine, and I'd just like to let it go at that.

23 Q. All right. Did you talk about ---

24 Do you recall talking to him about his
25 comparison of nicotine and cigarettes with other commercial

Produced by RFLC

52614 7402

1 drugs?

2 MS. MCDOLE: Objection to the form.

3 A. No. I don't remember discussing that.

4 That --

5 Q. BY MR. MCCLAIN: Did you ever seek him out
6 and say, "Claude, I've read this memo, and I think you're
7 off base on referring to nicotine as a commercial drug"?

8 A. This is not my way of conducting research or
9 directing research. I let people express their views.

10 Q. All right.

11 A. It was -- there are many other people
12 expressed views which I agreed, and sometimes I disagreed;
13 but it would not be necessary to take a stand on issues that
14 -- with which I disagreed because we had a free society, so
15 to speak.

16 Q. Look down on Page 8 where he says, "The
17 approaches advocated above are aimed" -- it's in the middle
18 of the paragraph. Do you see where I am?

19 A. On Page 8?

20 Q. Yes. The -- beginning with "The approaches."

21 A. Okay. I see that. Yes, uh-huh.

22 Q. "The approaches advocated above are aimed at
23 stopping and eventually reversing a trend that may in the
24 long term put us out of business, and are intended to lay a
25 framework of philosophy around which research efforts may

Produced by R. F. T. C.

52614 7403

1 now begin."

2 MS. MCDOLE: I'm sorry. I've lost you. Page 8?

3 MR. MCCLAIN: Uh-huh.

4 MS. MCDOLE: Okay. Thank you.

5 Q. BY MR. MCCLAIN: "Hopefully, some day we will
6 rejoice rather than despair when a new crop of tobacco shows
7 an unusually high content of nicotine, our primary product."
8 Did you see that?

9 A. Uh-huh.

10 Q. Did various tobacco crops have differing
11 quantities of nicotine?

12 A. Yes, they do.

13 Q. And are some tobacco crops high in nicotine?

14 A. Yes.

15 Q. And, again, he's referring to nicotine as the
16 company's primary product?

17 MS. MCDOLE: Objection.

18 Q. BY MR. MCCLAIN: DOES HE NOT?

19 MS. MCDOLE: Objection to the form.

20 A. Well, tobacco is the primary product.

21 Q. BY MR. MCCLAIN: Well, look over at Page 8
22 again. When he says, "shows an unusually high content of
23 nicotine, our primary product" --

24 A. Well, this is speculation.

25 Q. But that's his speculation?

1 A. That's his speculation.

2 Q. That your primary product is nicotine?

3 A. The primary product is tobacco containing
4 nicotine.

5 Q. Yes. And he says, "We should rejoice when
6 it's high." Am I right?

7 MS. MCDOLE: Objection to the form.

8 A. I don't agree with that.

9 Q. BY MR. MCCLAIN: Isn't that what he says in
10 the memo?

11 MS. MCDOLE: Objection.

12 A. He says that, but I don't agree with that.

13 Q. BY MR. MCCLAIN: All right.

14 MS. MCDOLE: I object to the extensive examination
15 of this witness on Exhibit 6, which was a document produced
16 in Burton long ago. This witness could have been deposed
17 years ago on this document.

18 MR. AVRAM: Mr. McClain, are we about ready to
19 take a break?

20 MR. MCCLAIN: Would you like to?

21 MR. AVRAM: Yeah. I think it would be good, yeah.

22 MR. MCCLAIN: OKAY. LET'S DO THAT.

23 (Off the record)

24 (Brief recess: 10:31 a.m. to 10:48 a.m.)

25 (Back on the record)

1 Q. BY MR. MCCLAIN: Doctor Senkus, when we
2 broke, we were discussing the subject of nicotine and Doctor
3 Teague's memorandum to you on that subject. Do you recall
4 that?

5 A. Yes.

6 (Deposition Exhibit 7 was marked for
7 identification.)

8 Q. BY MR. MCCLAIN: I'd like to hand you another
9 memorandum from Doctor Teague on that same subject to you.

10 MS. MCDOLE: I'm going to object to questioning
11 this witness about a document that he could have been asked
12 about in a deposition taken years ago.

13 Q. BY MR. MCCLAIN: In this memoran---
14 Would you review this? It's another one from
15 Mr. Teague at about -- in the '72 time period. If you'll
16 look at the date on the last page.

17 A. (Reviewing document.)

18 Q. It says -- the second sentence says, "The
19 processes operating during burning of tobacco produce many
20 desirable smoke components, such as nicotine and flavorants,
21 but in addition produce some components alleged to be
22 harmful to the smoker. As far as is known, none of these
23 allegedly harmful components of smoke, with the exception of
24 nicotine, contribute anything to the pleasures and
25 satisfactions expected and derived from smoking."

1 Do you see that?

2 A. Yes.

3 Q. In this memo, which is entitled "Research
4 Planning Memorandum on Products Made with Purified Tobacco
5 Condensate" -- do you see that?

6 A. Yes.

7 Q. -- he is suggesting purifying the cigarette
8 smoke from the -- by removing the harmful ingredients, as I
9 understand it, is he not?

10 MS. MCDOLE: Objection. Mischaracterization.

11 A. Say that again, please. He's --

12 Q. BY MR. MCCLAIN: He is proposing removing the
13 harmful ingredients from tobacco smoke, is he not?

14 MS. MCDOLE: Objection. Mischaracterization.

15 A. Well, he's proposing preparing a smoke
16 condensate. When you say "Pre-smoke tobaccos, collect the
17 smoke condensate" --

18 Q. BY MR. MCCLAIN: Yeah. Purified smoke
19 condensate, right? It's in the last sentence -- "purified
20 smoke condensate."

21 Do you see it?

22 A. To collect the smoke condensate -- okay. And
23 sell the purified smoke condensate in some form of delivery
24 system. Yeah.

25 Q. This is in -- this is in the same course of

1 documents regarding --

2 A. Yes, uh-huh.

3 Q. -- nicotine research?

4 A. Yes, uh-huh. Okay.

5 Q. Did you know of a scientist at Philip Morris
6 named Doctor Dunn -- William Dunn, Jr.?

7 A. Yes.

8 Q. What was his job at Philip Morris? Do you
9 recall?

10 A. Sort of a psychologist.

11 (Deposition exhibit 8 was marked for
12 identification.)

13 Q. BY MR. MCCLAIN: Let me hand you a memorandum
14 on that subject. This is another memorandum marked
15 "Secret." Am I right?

16 A. (Reviewing document.)

17 Q. At the bottom?

18 A. At the bottom.

19 Q. And you're C.C.'D on it?

20 A. Yes.

21 Q. It's from Frank Colby to Doctor Teague?

22 A. Yes.

23 Q. Who is Mr. Colby?

24 A. He was Director of Scientific Affairs -- in a
25 sense, the library.

1 Q. He was in charge of the library?

2 A. Yes.

3 Q. May of 1972?

4 A. Yes.

5 Q. This same time period that we've been talking
6 about that these memos were generated by --

7 A. Yeah, uh-huh.

8 Q. It says, "I also saw a draft paper by Doctor
9 Dunn, who is a full-time psychologist with Philip Morris.
10 He's very much emphasized in this paper the key role of
11 nicotine in smoking, and even though this was not stated in
12 the paper, there was a hint that Philip Morris might be
13 thinking in terms of a high nicotine cigarette."

14 Do you remember this subject coming up within the
15 research department, Doctor Senkus?

16 A. I don't recall specifically right this time.
17 No, I don't.

18 (Deposition Exhibit 9 was marked for
19 identification.)

20 Q. BY MR. MCCLAIN: Let me show you a copy of
21 the memorandum he refers to.

22 MS. MCDOLE: While we're doing that, I object to
23 using this deposition to show the witness, again, more
24 documents that could have been shown to him years ago.

25 A. (Reviewing document.)

1 Q. BY MR. MCCLAIN: Do you remember Mr. Dunn and
2 his research?

3 A. I know a little bit about him, yes.

4 Q. It says here in the first paragraph, "The
5 question is put as to why people smoke. The answer is
6 proposed that one smokes to obtain nicotine. It is
7 contended in this paper that nicotine, specially packed, is
8 the cigarette industry's product. Human engineering
9 features of the cigarette are discussed to explain why it
10 has become the favored smoking form and to support the
11 argument that it cannot readily be replaced as the nicotine
12 package of choice."

13 Did you see that?

14 A. Yes.

15 Q. Did you understand that this was Philip
16 Morris' position at the time?

17 MS. MCDOLE: Objection. There's no foundation as
18 to when the witness saw this document or if he ever saw the
19 document.

20 MR. MCCLAIN: Well, it's referred to -- it's
21 referred to in the memorandum that was --

22 MS. MCDOLE: Exhibit 8. And Doctor Colby also
23 says he couldn't get a copy of it. He says it in Exhibit 8.

24 MR. MCCLAIN: Do you want to be sworn? It
25 wouldn't do any good. You know, your oath would mean

1 nothing, but do you want to be sworn?

2 MS. MCDOLE: No. I think you asked -- you made
3 the point, Ken. I made the point that you have --

4 MR. MCCLAIN: You're testifying.

5 MS. MCDOLE: No, I'm not.

6 MR. MCCLAIN: You're testifying.

7 MS. MCDOLE: I'm answering your question. My
8 objection is there is no foundation laid with this witness as
9 to when he ever saw Exhibit 9, if he did.

10 Q. BY MR. MCCLAIN: Do you remember Doctor Dunn
11 and his research?

12 A. Yes, I do remember.

13 Q. And do you remember this being the position
14 of Philip Morris at or about this time?

15 MS. MCDOLE: Objection to the form.

16 A. The -- what is that question? Do I --

17 Q. BY MR. MCCLAIN: Did you know that this was
18 Philip Morris' position?

19 MS. MCDOLE: What was? Exhibit 9?

20 A. This position?

21 Q. BY MR. MCCLAIN: As stated in Paragraph 1.

22 A. In Paragraph 1 on Page --

23 Q. 1.

24 A. Page 1. (Reviewing document.) Let me
25 understand the question again. You're asking me is this the

1 Philip Morris position as to why people smoke?

2 Q. Yes.

3 MS. MCDOLE: No. No. The question -- that's not
4 the question, Ken.

5 MR. MCCLAIN: Well, he asked me if that's the
6 question; and I said, "Yes, it is." So it is my question.

7 Q. BY MR. MCCLAIN: Go ahead.

8 MS. MCDOLE: It's a new question.

9 Q. BY MR. MCCLAIN: You can ---

10 MR. MCCLAIN: Fine. And he can propose it, and he
11 can answer it.

12 A. Well, as far as I know, Philip Morris and we
13 believe nicotine is an important component of cigarettes.

14 Q. BY MR. MCCLAIN: Did you attend a conference
15 at Coresta Conference, Williamsburg, Virginia, in 1972? Did
16 you attend that conference?

17 A. Yes, I did.

18 (Deposition Exhibit 10 was marked for
19 identification.)

20 A. (Reviewing document.) Oh. Uh-huh. Okay.

21 Q. BY MR. MCCLAIN: Do you recall Doctor Dunn's
22 presentation at the conference?

23 A. No, I don't.

24 Q. All right. But you were present?

25 A. I was present at the conference.

1 Q. Were you also ---

2 Within this paper they refer to a St.
3 Martin's conference that previously had been held. Did you
4 attend it, too?

5 A. Yes, I did.

6 Q. All right. And was Mr. Dunn also a presenter
7 at that conference?

8 A. I believe he was there, yes.

9 Q. All right. In reviewing this document -- it
10 says, "The St. Martin's conference was called by the Council
11 for Tobacco Research" -- I'm on Page 3.

12 A. Yes.

13 Q. Was that correct?

14 A. Yes.

15 Q. And the Council for Tobacco Research was the
16 successor to the T.I.R.C. that we discussed earlier, right?

17 A. Yes.

18 Q. The one that issued the Frank Statement?

19 A. Uh-huh.

20 Q. And you were a technical consultant, you
21 said, to the C.T.R.?

22 A. Yes.

23 Q. Right? It said on Page -- it says on Page 3
24 "Most of the conferees would agree with this proposition:
25 the primary incentive to cigarette smoking is the immediate

Produced by RJRTC
in

52614 7413

1 salutary effect of inhaled smoke upon body function."

2 Was that, in fact, the conclusion of the
3 conferees?

4 A. Not necessarily. This is, I believe, Doctor
5 Dunn's interpretation.

6 Q. Okay. And would you agree or disagree with
7 it?

8 MS. MCDOLE: I'm sorry. Have we established that
9 Doctor Sankus was at the St. Martin conference?

10 MR. MCCLAIN: He said he was.

11 A. Well, that's what Doctor Dunn says here.

12 Q. BY MR. MCCLAIN: Okay. Look over at the --
13 look over at the next page where he says, "The majority of
14 the conferees would go even further and accept the
15 proposition that nicotine is the active constituent of
16 cigarette smoke. Without nicotine, the argument goes, there
17 would be no smoking."

18 Do you see that?

19 A. Yes.

20 Q. Did -- Was it your perception that the
21 majority of the conferees at the C.T.R. conference were of
22 that view as expressed by Doctor Dunn?

23 A. I don't know. There were many people there,
24 as I recall; and I don't know if this is a correct statement
25 or not. This is Doctor Dunn's statement.

1 Q. Look over at the next page and say, "The
2 cigarette" -- this is the second sentence.

3 A. Yes. I see it.

4 Q. "The cigarette should be conceived not as a
5 product but as a package. The product is nicotine."

6 A. Uh-huh.

7 Q. "The cigarette is but one of the many package
8 layers. There is the carton, which contains the pack, which
9 contains the cigarette, which contains the smoke. The smoke
10 is the final package. The smoker must strip off all these
11 package layers to get to what -- to that which he seeks."

12 Do you see where I read that?

13 A. Yes.

14 Q. Do you remember this -- a discussion about
15 this concept of the cigarette being the package to deliver
16 nicotine?

17 A. He's expressing something that's been
18 expressed elsewhere, just putting it in a different form.

19 Q. Kind of poetic language?

20 MS. MCDOLE: Objection to the form.

21 A. Well, it's his language.

22 Q. BY MR. MCCLAIN: Yes. It says -- here he
23 says this: "But consider for a moment what 200 years of
24 trial and error designing has brought in the way of nicotine
25 packaging. Think of the cigarette pack as a storage

Produced by FIRC

52614 7415

1 container for a day's supply of nicotine. It is
2 unobtrusively portable. It contends -- its contents are
3 instantly accessible. Think of the cigarette as a dispenser
4 for a dose of nicotine."

5 MS. MCDOLE: Dose unit.

6 Q. BY MR. MCCLAIN: Dose unit. I'm sorry.

7 "Dose unit of nicotine. It is readily prepped for
8 dispensing nicotine. Its rate of combustion meters the
9 dispensing rate, setting an upper safe limit for a substance
10 that can be toxic in large doses. Dispensing is unobtrusive
11 to most ongoing behavior. Think of a puff of smoke as the
12 vehicle of nicotine. A convenient 35 cc mouthful contains
13 approximately the right amount of nicotine. The smoker has
14 wide latitude in further calibration: puff volume, puff
15 interval, depth and duration of inhalation. We have
16 recorded wide variability in intake among smokers. Among a
17 group of pack-a-day smokers, some will take in less than the
18 average of a half-pack smoker, some will take in more than a
19 half-pack -- some will take in more than the average two-
20 pack-a-day smoker. Highly absorbable: 97% nicotine
21 retention. Rapid transfer: nicotine delivered to
22 bloodstream in 1 to 3 minutes. Non-noxious administration."

23 Do you see that?

24 A. Yes.

25 Q. "Smoke is beyond question the most optimized

1 vehicle of nicotine and the cigarette the most optimized
2 dispenser of smoke."

3 Do you remember in general this discussion at the
4 C.T.R. conference on St. Martin's?

5 A. Well, there were a number of sessions. I'm
6 not sure I attended this particular session.

7 Q. Do you ---

8 In hearing this, do you recall this subject
9 being discussed at the conference?

10 A. No, I don't.

11 Q. All right. Did you -- did you recall ---

12 Did you recall at any time, even after the
13 conference, having this subject brought up to you?

14 MS. MCDOLE: What subject?

15 Q. BY MR. MCCLAIN: The subject of the cigarette
16 being a optimal dispenser of nicotine.

17 A. Well, this sentence expresses more or less
18 what Teague has already said.

19 Q. So this was a concept that had already been
20 expressed within the Reynolds Research Department?

21 A. Yes.

22 Q. At the time, by the way, Reynolds was a --
23 had a larger share of the market than Philip Morris, did it
24 not, in 1972?

25 A. I'm not sure. Probably not. I was -- they

Produced by RJRTC

REYNOLDS

52614 7417

1 were getting close.

2 Q. The two leaders of the market were Philip
3 Morris and Reynolds?

4 A. Right.

5 Q. You were battling for market dominance. Am I
6 right?

7 A. That's right. That's right.

8 Q. And so this idea being expressed by the
9 Philip's -- by Philip Morris' researcher had already been
10 extant in the Research Department of Reynolds. Is that
11 correct?

12 A. Yes. Yes.

13 Q. Here -- go down to the next paragraph --
14 "Let anyone be made unduly apprehensive about this drug-
15 like conceptualization of the cigarette, let me hasten to
16 point out that there are many other vehicles of sought-after
17 agents which dispense in dose units: wine is the vehicle
18 and dispenser of alcohol, tea and coffee are the vehicles
19 and dispensers of caffeine, matches dispense dose units of
20 heat, and money is the storage -- and money is the storage
21 container, vehicle and dose-dispenser of many things."

22 Do you see that?

23 A. Uh-huh.

24 Q. And Doctor Teague had previously analogized
25 cigarettes to drugs, had he not?

52614 7418

1 A. Well, he did say that nicotine is in the
2 category of chemicals regarded as a drug.

3 Q. Yes. So this idea was extant within Reynolds
4 also, was it not?

5 MS. MCDOLE: What idea?

6 A. Not extant. I mean ---

7 Q. BY MR. MCCLAIN: It had been discussed?

8 MS. MCDOLE: Objection to the form.

9 A. A few people would have mentioned it but not
10 -- throughout the Research Department, I don't think it was
11 discussed.

12 Q. BY MR. MCCLAIN: He goes on to say, "So much
13 for extolling the virtues of the rod. Let's go back now and
14 pick up our discussion of the motivational aspects of
15 smoking. If we accept the premise that nicotine is what the
16 smoker seeks, we've still not answered the question 'why do
17 people smoke?' We've merely reformulated it to read 'why
18 does the smoker take nicotine into his system?'

19 "Systematic research on the question dates back
20 some fifty years to the time when American Tobacco Company
21 funded the work of a psychologist later to become the most
22 prominent American psychologist of his time. His name was
23 Clark L. Hull. His question then was 'wherein lies the
24 charm of tobacco for those accustomed to its use?'

25 When you were reviewing the subject of nicotine at

1 the beginning of your work, Doctor Senkus, did you review
2 the work that had been funded by American Tobacco Company by
3 Clark Hull?

4 A. No; not -- I don't recall reviewing Hull's
5 work.

6 Q. All right. Did you ---
7 Were you aware that Hull had been funded by
8 the American Tobacco Company?

9 A. No, I was not.

10 Q. Fifty (50) years ago would have been 1922.
11 Were you aware that American Tobacco Company had funded
12 nicotine research as far back as 1922?

13 MS. MCDOLE: Well, objection to the form of the
14 question about nicotine research.

15 Q. BY MR. MCCLAIN: Or this work by Doctor Hull?

16 A. This particular work, I don't particularly --
17 I don't remember funding this kind of work of Hull.

18 Q. Do you recall -- who was ---
19 Who is Mr. Blevins?

20 A. He was in charge of market research.

21 Q. And who is Jerry Moore?

22 A. Jerry Moore -- M-o-o-r-e. I can't place him
23 right now. I remember Blevins but not Moore.

24 Q. Can you recall research being involved in a
25 project to determine whether or not sales were related to

Produced by RPTC

EXHIBIT

1 free nicotine content of cigarettes?

2 A. Not as such. A project free nicotine? No.
3 No; not free nicotine. As far as I know, free nicotine
4 doesn't have any meaning.

5 (Deposition exhibit 11 was marked for
6 identification.)

7 MS. MCDOLE: For the record, again, I object to
8 the use of Exhibits 8, 9, and 10, and now 11, because these
9 documents could all have been used previously in a
10 deposition taken within the time limits for discovery.

11 A. (Reviewing document.)

12 Q. BY MR. MCCLAIN: Do you see the ---
13 Do you see why I asked the question in the
14 first paragraph where it says, "A preliminary correlation
15 study of smoke balance factors (free nicotine, combined
16 nicotine, tar, nitrogen, ammonia, and sugar) with some
17 trends for Winston 85's versus Marlboro 85's and Salem 85's
18 versus Kool 85's from 1963 to '72 confirms the correlation
19 of free nicotine to sales previously reported by research"?

20 MS. MCDOLE: Objection. This -- there's no
21 foundation that this witness ever saw this document.

22 Q. BY MR. MCCLAIN: Do you see where it says
23 that research had previously reported a correlation of free
24 nicotine to sales?

25 A. Well, I would have to see a report where

1 somebody from research used the term "free nicotine." To
2 me, the term "free nicotine" doesn't have any meaning. But
3 this is being written by a market analyst or a marketing man
4 who is not a chemist.

5 Q. Do you recall any attempt by research to
6 correlate smoking with nicotine content?

7 A. Nicotine content of tobacco or smoke?

8 Q. Smoke. Or either. I -- you know, what do
9 you recall is the question.

10 A. Well, we did work on preparing a cigarette
11 that would be most acceptable for taste to compete with
12 other cigarette manufacturers.

13 Q. But do you ---

14 But the question I asked was a little
15 different. Do you remember attempting to correlate sales
16 with nicotine content of the smoke or cigarette or nicotine
17 content of anything or delivery -- some correlation with
18 nicotine that's alluded to in this memo?

19 MS. MCDOLE: Objection to the form of that
20 question.

21 A. Work was done to create a cigarette that
22 would meet the consumer demand.

23 (Deposition Exhibit 12 was marked for
24 identification.)

25 Q. BY MR. MCCLAIN: Let me show you another

1 document. Maybe this will help us out.

2 MS. MCDOLE: Object to the use of a document that
3 could have been used in a deposition taken long ago. Again,
4 there's nothing new about this document.

5 A. (Reviewing document.) Okay. So ---

6 Q. BY MR. MCCLAIN: There's another document
7 marked "Secret," isn't there?

8 A. Yes.

9 Q. Got lots of secrets.

10 MS. MCDOLE: Objection to the form. Objection to
11 the comment.

12 Q. BY MR. MCCLAIN: Do you see the ---

13 The second sentence says, "Because it relates
14 to our recently enhanced awareness of the role of nicotine
15 pH, et cetera in selling cigarettes, it may be of interest
16 to you at this time." This is by Mr. Teague to Mr. --

17 A. Yeah.

18 Q. -- Blevins. Does this refresh your
19 recollection about what -- the way research was expressing
20 this issue of nicotine in relation to sales?

21 MS. MCDOLE: Objection. There's no foundation
22 that this witness, Doctor Senkus, ever saw this document.

23 Q. BY MR. MCCLAIN: Do you recall this subject
24 being discussed in research -- the role of nicotine pH in
25 relation to sales -- don't you, Doctor Senkus?

1 A. The question is did we discuss the role of pH
2 in regard to sales? It was discussed.

3 Q. Nicotine pH.

4 A. Yeah.

5 Q. Tell us ---

6 A. Of smoke. Of smoke.

7 Q. Yes, of smoke. Tell us about that. What is
8 -- what is it about nicotine pH that's relevant to sales, as
9 you understood it?

10 MS. MCDOLE: Objection to the form of that
11 question.

12 A. It's finding -- or controlling pH of smoke
13 that would meet the taste requirements of a smoker.

14 Q. BY MR. MCCLAIN: Does the pH level of smoke
15 affect the delivery of nicotine to a smoker?

16 A. No. I mean -- say that -- ask that question
17 again.

18 Q. Does the pH of smoke affect the nicotine
19 delivery --

20 A. No, it does not.

21 Q. -- to the smoker?

22 A. No. No. pH -- the pH has no effect on the
23 delivery of smoke to the smoker -- nicotine to the smoker.

24 Q. Does the ---

25 Does ammonia reduce the pH of -- or increase

1 the pH of -- strike that.

2 In your -- go ahead. Explain it for us.

3 A. Traces of ammonia --

4 MS. MCDOLE: Object. Well, there's no question
5 pending.

6 MR. MCCLAIN: He understands the question. He's
7 explaining --

8 A. Traces of ammonia is a means of controlling
9 the pH of smoke.

10 Q. BY MR. MCCLAIN: All right. And were you
11 exploring the ammonia relationship with controlling pH of
12 nicotine at this time?

13 A. We did work on that, yes.

14 Q. Was it your view at the time that Philip
15 Morris was also utilizing ammonia to regulate smoke pH?

16 MS. MCDOLE: Well, objection to the phrase "also
17 using." The witness testified he was exploring -- or
18 they were exploring.

19 Q. BY MR. MCCLAIN: Exploring then.

20 A. Okay. So what is the question about Philip
21 Morris?

22 Q. At this time -- at this time, were you aware
23 or were you concerned that Philip Morris was regulating
24 smoke pH and that was having a positive impact on their
25 sales?

1 A. Philip Morris in creating the Marlboro
2 intentionally or unintentionally had a pH of smoke that
3 satisfied the customers.

4 Q. And did the Marlboro, then, have -- were you
5 investigating why Marlboro was accepted by the smokers?

6 A. Well, our understanding reviewing the
7 literature when they first created the Marlboro -- the
8 Marlboro cigarette had the right pH.

9 Q. And was that pH achieved by the addition of
10 ammonia to the cigarette?

11 A. As I understand it, it was not by adding
12 ammonia to the cigarette; no. It's a complicated chemistry.
13 But they did not ammonia -- they did -- as far as I can
14 determine, knowing the chemistry of the tobacco, they did
15 not add ammonia as such to the cigarette.

16 Q. Well, tell me, then -- tell me, then, what
17 impact ammonia had on the Marlboro's success, if any.

18 A. Well -- and this is -- this is very, shall we
19 say, complicated chemistry; but it's just that the trace
20 ammonia -- whatever it was -- positioned the pH just at the
21 right pH that produced the kind of taste that was
22 satisfactory to the consumer.

23 And so it's a taste effect purely.

24 VIDEOGRAPHER: Excuse me, counsel. We have just a
25 couple of minutes of video time left.

1 MR. MCCLAIN: Give me his report.

2 Q. BY MR. MCCLAIN: It's your view that it's
3 merely taste?

4 A. Taste. Taste. Purely taste.

5 Q. Okay.

6 A. And it's a very intangible kind of effect,
7 but it's there.

8 Q. Do you recall drafting -- or being involved
9 in a brochure called "New Product/Merchandising Directions,
10 a Three Year Action Plan" in 1976? Do you remember being
11 involved in that?

12 A. I don't recall being a part of that. I may
13 have been. I don't recall specifically.

14 (Deposition Exhibit 13 was marked for
15 identification.)

16 Q. BY MR. MCCLAIN: Let me hand you what we've
17 marked as Exhibit 13.

18 MS. MCDOLE: Again, object to the use of this
19 document. It could have been used in a deposition taken
20 within the appropriate discovery period. It was produced in
21 this case years ago.

22 MR. MCCLAIN: Do you need to change tapes now? Go
23 ahead.

24 VIDEOGRAPHER: Shall I do it now?

25 MR. MCCLAIN: Yes. Go ahead and do it now.

Produced by RJRTC

52614 7427

1 (Off-the-record discussion from 11:24 a.m. to 11:29 a.m.)

2 Q. BY MR. MCCLAIN: Doctor Senkus, there is -- I
3 handed you a document called "New Product/Merchandising
4 Directions, a Three Year Action Plan, August 19th, 1976."
5 It, too, is stamped "R.J.R. Secret," and it indicates that
6 you are a participant in the presentation of this material.

7 Do you see that?

8 A. Yes.

9 Q. Do you remember this?

10 A. Yes, I do.

11 Q. Would you look over at Page 61, which it
12 looks like it's a copy of your presentation to a group. Is
13 that what this was?

14 A. Yes.

15 Q. Was this a presentation to a group? Who was
16 it -- who was it a presentation to?

17 A. Let's see. I'm trying to say the date -- I
18 do remember a presentation in New York.

19 Q. This was in 1976, according to the cover --
20 August of '76. Let me see if we can see where it was
21 presented.

22 Let's look at -- look at Page 1. It talks about
23 you there on Page 1 of this document. All the way back at
24 the beginning. I'm sorry.

25 A. (Reviewing document.)

1 Q. It says, "Doctor Senkus will speak" -- do you
2 see where I am -- in the middle of the page?

3 A. Yes.

4 Q. "Doctor Senkus will speak to the
5 pharmacological effects of nicotine and smoking -- the state
6 of its knowledge today. It is more important than ever
7 before that we understand and apply this knowledge to our
8 development of satisfying lower tar cigarettes."

9 A. Yes, uh-huh.

10 Q. All right. Now, does this -- does this place
11 it for you -- what the focus of this memo and presentation
12 were?

13 MS. MCDOLE: Well, that wasn't the question that
14 was pending. Objection to the form.

15 A. I can't recall exactly.

16 Q. BY MR. MCCLAIN: But you do remember the
17 presentation?

18 A. Yes, I do remember the presentation.

19 Q. Looking ---

20 By the way, when they say that you were going
21 to speak about the pharmacological effects of nicotine, what
22 does that mean?

23 A. The effect on parts of the body, the effect
24 on the brain, stimulation -- things of that sort.

25 Q. When I think of pharmacological, I think of

produced by eJLTC

52614 7429

1 pharmacy where I get drugs. Is that -- are those terms
2 related?

3 MS. MCDOLE: Objection to the form.

4 A. Pharmacy. Yeah. Aspirin is a
5 pharmacological agent.

6 Q. BY MR. MCCLAIN: Yes. All right. And so you
7 were discussing pharmacological agents, right?

8 MS. MCDOLE: Objection to the form.

9 A. The pharmacological effects of smoking.

10 Q. BY MR. MCCLAIN: Yes. Look over -- look over
11 at 61 now. We're back at 61.

12 A. Okay. Uh-huh.

13 Q. And it's Physiological Agents on Page 61. Do
14 you see that at the top?

15 A. Yeah. Yeah.

16 Q. Physiological Agents. And it talks about
17 human dependence. Was this a slide that was put up -- chart
18 number 38 -- on a screen for everyone to read?

19 A. Yeah, uh-huh.

20 Q. Okay. It says "Physiological Agents," and
21 then "Human Dependence" is under that?

22 A. Uh-huh.

23 Q. Right? And you list some that are inside the
24 body and then outside the body, nicotine and -- caffeine and
25 nicotine?

1 A. Yes.

2 Q. And then on the next page you have a chart
3 describing what happens when a person smokes --

4 a. Uh-huh.

5 Q. -- and how much nicotine they get in their
6 blood depending on their puff volume?

7 A. Yes.

8 Q. All right. And you say, "Nicotine levels of
9 blood reaches a maximum after one or two puffs." That's in
10 the second paragraph.

11 A. Yes.

12 Q. Was that what you presented that day?

13 A. Yes.

14 Q. And then you -- over at page 64 -- stop for a
15 moment.

16 In -- on that first page it said that you
17 were going to be presenting your current state of knowledge
18 about nicotine. Is that what you were attempting to do to
19 the group?

20 MS. MCDOLE: Hang on. Hang on. Hang on.

21 Objection. Mischaracterization, because it's --

22 MR. MCCLAIN: Just read -- read it directly
23 because I don't have -- I was trying to recall the exact
24 words.

25 MS. MCDOLE: "Doctor Senkus will speak to the

Produced by RAREC

in HUMPHREY

52614 7431

1 pharmacological effects of nicotine and smoking."

2 MR. MCCLAIN: It goes on from that.

3 MS. MCDOLE: "The state of its knowledge today."

4 MR. MCCLAIN: Yeah. Right.

5 Q. BY MR. MCCLAIN: It's -- "The state of its
6 knowledge today." The company's knowledge, right?

7 MS. MCDOLE: Well --

8 Q. BY MR. MCCLAIN: This was --

9 A. My knowledge.

10 Q. Yeah. And you were the head of research?

11 MS. MCDOLE: Objection to the form.

12 A. I don't think I was at this time. I think at
13 this point maybe I was Director of Scientific Affairs.

14 Q. BY MR. MCCLAIN: All right. But you had been
15 looking into --

16 A. Yes.

17 Q. -- the role of nicotine from at least 1960.
18 Am I right?

19 MS. MCDOLE: No. He said 1960's. Objection to
20 the form.

21 Q. BY MR. MCCLAIN: Well, we saw a paper from
22 1960, didn't we?

23 MS. MCDOLE: Objection to the form.

24 Q. BY MR. MCCLAIN: That you had done?

25 MS. MCDOLE: Objection. Mischaracterization of

produced by RJRTC

UNIVERSITY MICROFILMS

52614 7432

1 evidence.

2 A. It was a meeting I attended -- a conference I
3 attended.

4 Q. BY MR. MCCLAIN: So you ---

5 That's at the point where at least we can
6 document that you at least wrote a paper about nicotine. Am
7 I right?

8 MS. MCDOLE: Objection.

9 A. I reported a meeting -- or reports for the
10 meeting.

11 Q. BY MR. MCCLAIN: And as we've seen today,
12 your work regarding nicotine continued as head of research.
13 Am I right?

14 MS. MCDOLE: Objection to the mischaracterization.

15 A. It's one of the subjects we dealt with in
16 research.

17 Q. BY MR. MCCLAIN: And one of the prime people
18 you relied upon to help you in that regard was Mr. Teague --
19 Doctor Teague?

20 MS. MCDOLE: Objection to the form.

21 A. He dealt with the problem. He reported to
22 me.

23 Q. BY MR. MCCLAIN: He was your right-hand man?

24 A. If you want to call it that.

25 Q. And so when you're reporting here, you have

Produced by RRTC
in
TEMPERARY

52614 7433

1 been looking at the subject of nicotine for some time. Am I
2 right?

3 MS. MCDOLE: Objection to the form.

4 A. It's one of the minor items that I had been
5 working on.

6 Q. BY MR. MCCLAIN: And you were providing the
7 state of the art?

8 MS. MCDOLE: Objection to the form.

9 Q. BY MR. MCCLAIN: Am I right?

10 MS. MCDOLE: Objection to the form.

11 A. To my limited experience. I was not a -- I
12 did not have a degree in medicine.

13 Q. BY MR. MCCLAIN: Now, Doctor Senkus, you were
14 the head of --

15 A. Research.

16 Q. -- research?

17 A. Uh-huh.

18 Q. Yeah. You had an important position. Am I
19 right?

20 A. Yes.

21 Q. And your right-hand man called nicotine the
22 *sine qua non* of the tobacco industry, did he not?

23 MS. MCDOLE: Objection. Argument. Asked and
24 answered.

25 Q. BY MR. MCCLAIN: Didn't he?

Produced by RJRT

HUMPHREY

1 A. He said that, yes.

2 Q. I mean -- and at the time, you didn't
3 consider the subject of nicotine to be minor in regard to
4 the work you were doing, did you?

5 MS. MCDOLE: Objection to the form.

6 A. Well, in dealing with the marketplace, it was
7 one of the items we were dealing with.

8 Q. BY MR. MCCLAIN: It was an important item?

9 MS. MCDOLE: Objection to the form.

10 Q. BY MR. MCCLAIN: Wasn't it?

11 MS. MCDOLE: Objection to the form.

12 A. It was one of the items.

13 Q. BY MR. MCCLAIN: And -- I'm not saying that
14 it was the only one, but it was an important one. Am I
15 right?

16 MS. MCDOLE: Objection. Asked and answered
17 several times. You've got the answer.

18 A. Well, it received some attention; but on the
19 research program, I would say it was just one of many.

20 Q. BY MR. MCCLAIN: All right. And you didn't
21 agree that it was the sine qua non, right?

22 MS. MCDOLE: Objection. Asked and answered.

23 Q. BY MR. MCCLAIN: Is that what you're telling
24 us today?

25 A. It is an important ingredient of tobacco.

Produced by eARTC

Industry Documents

52614 7435

1 Q. Now next it says, "The nicotine in the blood
2 acts upon the central nervous system and produces in the
3 average smoker a sensation one would describe as either
4 stimulating or relaxing."

5 You've told us about that already today,
6 haven't you?

7 A. Yes, uh-huh.

8 Q. And you told the group that was assembled
9 that day the same thing?

10 A. Yes.

11 Q. You said, "It is important to note that an
12 individual who smokes regularly thoroughly enjoys the
13 sensation attributable to smoking of a good quality
14 cigarette."

15 Was that a true statement then?

16 A. Yes.

17 Q. It says, "It can be assumed that the amount
18 of nicotine that is required to get this desired effect
19 varies from person to person."

20 Was that your view at the time?

21 A. Yes.

22 Q. It says, "There are ways to increase or
23 decrease the amount of nicotine one can obtain by smoking a
24 single cigarette." Do you see that? And that's "But" -- it
25 begins the sentence "But," and it's kind of covered up by

1 that "u" that --

2 A. Uh-huh, yeah.

3 Q. Okay. Do you see that?

4 A. Yes. Yes, I see that.

5 Q. And then it drops down and says, "Without any
6 question, the desire to smoke is based on the effect of
7 nicotine on the body."

8 A. Yes.

9 Q. That was your view in 1976, wasn't it?

10 A. Yes.

11 Q. It says over on the next page, "The
12 enjoyment" -- do you see that -- where I am on this page?

13 A. Uh-huh.

14 Q. "The enjoyment of smoking appears to be a
15 hereditary characteristic, a rough approximation is that a
16 fourth of the population are hereditarily predisposed to
17 smoking."

18 A. Where do you have that? Oh. Page 65?

19 Q. Yes.

20 A. Uh-huh.

21 Q. Do you see where I am?

22 A. Yes.

23 Q. "Some are only mildly hereditarily
24 predisposed and that's why so many smokers have found it so
25 easy to quit."

1 Did you have that view at the time in 1976 --

2 A. Yes.

3 Q. -- as the Director of Scientific Affairs for
4 R. J. Reynolds?

5 A. Uh-huh, yes.

6 Q. That some smokers were more hereditarily
7 predisposed to smoking than others? That was your view?

8 A. Yes.

9 Q. It says, "But it's important to remember that
10 the way your body reacts to nicotine is a hereditary
11 characteristic. Some people have an affinity for nicotine
12 while others do not crave it."

13 Was that your view?

14 A. Yes.

15 Q. That certain people because of hereditary
16 factors crave nicotine? As the Director of Scientific
17 Affairs for Reynolds, that was your view in 1976. Am I
18 right?

19 A. Yes.

20 MS. MCDOLE: Objection to the form.

21 Q. BY MR. MCCLAIN: Now, this -- look over at
22 Page 71.

23 A. (Reviewing document.)

24 Q. I thought that you told me earlier -- and I
25 may be mistaken about this; so if I'm wrong, tell me. I

1 thought you said that the pH level did not impact the amount
2 of nicotine that was transferred to humans from smoking.
3 Did I understand you to say that?

4 A. Repeat that again, please.

5 MR. MCCLAIN: Would you read it back?

6 (Question read back by court reporter.)

7 A. I said that.

8 Q. BY MR. MCCLAIN: Well, I'm confused then,
9 because look at Page 71, Doctor Senkus.

10 A. Yes.

11 Q. You say, "So simply by raising pH, say from
12 6.0 To 6.5" --

13 MS. MCDOLE: I'm sorry. Where are you?

14 MR. MCCLAIN: In the middle of the page -- "So
15 simply."

16 MS. MCDOLE: Okay.

17 Q. BY MR. MCCLAIN: "So simply by raising pH,
18 say from 6.0 To 6.5, you raise the level of nicotine that is
19 transferred to the taste buds and body fluid in the mouth to
20 the same level as with the higher tar cigarette."

21 Did I read that accurately?

22 A. Yeah.

23 Q. All right. Is it true that by raising the pH
24 from six point oh (6.0) to six point five (6.5), you
25 increase the nicotine transferred to body fluid? Yes or no?

1 Was that a true statement?

2 A. (Reviewing document.) Okay. "Now if it is a
3 high tar cigarette, say a non-filter tar and a pH around
4 6.0, he will in the short time he holds the smoke in the
5 mouth perceive a mild nicotine effect."

6 Now, how does that contradict the statement I made
7 earlier?

8 Q. Well, maybe it doesn't; but I'm asking you
9 does, in fact, raising the pH increase the nicotine level
10 transferred to body fluid?

11 MS. MCDOLE: I think the witness was reading the
12 passage at the top of the paragraph.

13 A. Let's see now. Let's ponder that question
14 you're asking me. My first statement was that pH by itself
15 does not determine the amount of nicotine transferred to the
16 blood -- to the smoker.

17 Here we're talking about, "If it is a high tar
18 cigarette, say a non-filter and pH around 6.0, he will in
19 the short time holds -- perceive a mild nicotine effect."

20 Q. BY MR. MCCLAIN: No. This sentence refers to
21 a low tar cigarette. It's not the high tar cigarette.

22 MS. MCDOLE: He's not on the same part of the
23 page.

24 MR. MCCLAIN: I know. That's what I'm saying.

25 Q. BY MR. MCCLAIN: Look -- look -- I'm

Produced by RPTC
in
HUMPHREY

52614 7440

1 referring to this part --

2 A. Oh, you're down below here?

3 Q. Yes.

4 A. Where are you now?

5 Q. "So simply by raising pH, say from 6.0 To
6 6.5, you raise the level of nicotine that is transferred to
7 the taste buds and body fluid in the mouth to the same level
8 as with the higher tar cigarette."

9 A. But we're talking about the mouth only here.
10 It has nothing to do with the total transfer to the blood.

11 Q. So you're saying -- so you're saying that
12 there is a higher transfer of nicotine to body fluid but not
13 necessarily to the blood? Is that your contention?

14 MS. MCDOLE: Objection to the form. Objection to
15 the tone.

16 A. "If it's a low tar cigarette, there will be
17 less nicotine transferred in the mouth from a" -- so there's
18 less transferred in the mouth, so he will discern less
19 taste.

20 See, we're talking about taste. And then we
21 talk, "To enhance this taste, you must raise the pH of
22 smoke. So simply raising pH, you raise the level of
23 nicotine that's transferred -- and body fluid."

24 We're not talking about the overall transfer
25 to the human system. It's complicated, but --

Produced by EATC

52614 7441

1 Q. BY MR. MCCLAIN: Well, let's -- let me
2 just --

3 MS. MCDOLE: Let him finish. Go ahead. "It's
4 complicated, but --" Had you finished, Doctor?

5 THE WITNESS: Well, I was interrupted.

6 A. So where are we right now? See, the thing is
7 I maintain, that pH by itself does not determine the amount
8 of nicotine a person gets.

9 Q. BY MR. MCCLAIN: I understand that it's a
10 complicated issue.

11 A. Okay.

12 Q. But it's true, is it not, that if you
13 increase pH, you transfer more nicotine to body fluids?
14 That's true, is it not?

15 MS. MCDOLE: Objection to the form.

16 A. "And body fluid in the mouth." I'm talking
17 about the mouth.

18 Q. BY MR. MCCLAIN: Yes.

19 A. And only a small amount of nicotine is
20 transferred to the whole body system in the mouth.

21 Q. This is what you refer to -- look over at
22 Page 74. You elucidate that..

23 A. (Reviewing document.) So where are we again?

24 Q. The middle of the page, "With the low tar
25 cigarette." Do you see where I am?

Produced by RLRTC

1 A. Yeah, uh-huh.

2 Q. Okay. You say, "With the low tar cigarette,
3 one can adjust the flavor in the mouth by adjusting the pH
4 of smoke. However, the amount of nicotine that one can get
5 in the lungs from low tar cigarettes is much less."

6 A. Yeah.

7 Q. "So the smoker then resorts to other means to
8 get the nicotine he needs in the blood from low tar
9 cigarettes by longer puffs, by larger puffs, by more
10 frequent puffs, and also by smoking more cigarettes each
11 day."

12 Did I read that right?

13 A. Uh-huh.

14 Q. Then you go on on the next page --

15 A. Well -- but have we finished this question
16 about pH in smoke? I mean, here -- the language here is
17 different.

18 Q. Yes. And -- but go over to the ---

19 I want to go on to the top of the next page
20 because I think it relates. You tell me. "However, the
21 ultimate satisfaction comes from the nicotine which is
22 extracted while the tar is held in the lungs, this being the
23 nicotine in the smoke as determined by chemical analysis."

24 A. Yeah, uh-huh.

25 Q. That's correct, isn't it? Is that what you

Produced by R.I.R.T.C.

in

HUMPHREY

52614 7443

1 were trying to say --

2 MS. MCDOLE: Objection to the form.

3 Q. BY MR. MCCLAIN: -- earlier?

4 A. The ultimate satisfaction, which is in the
5 blood --

6 Q. Right.

7 A. -- the ultimate satisfaction.

8 Q. And you go on. "From this standpoint -- a
9 zero nicotine cigarette has no taste in the mouth - yields
10 no nicotine in the lungs - and hence really has no potential
11 to provide smoking satisfaction." Am I right?

12 MS. MCDOLE: Are you right about what?

13 Q. BY MR. MCCLAIN: That's what you say?

14 A. Yeah.

15 Q. In other words -- in other words, what you're
16 describing as taste is the motivating thing that allows or
17 that prompts the smoker to hold smoke in his lungs and
18 absorb nicotine. Am I right? Is that what you're saying?

19 MS. MCDOLE: Objection. Mischaracterization.

20 A. No. I don't understand that.

21 Q. BY MR. MCCLAIN: Well, when you say this --

22 A. When you talk about taste, in my mind, you're
23 talking about consumer acceptance. That's -- and so that's
24 why pH is important -- is to get consumer acceptance; but
25 this whole thing we're talking about here --

1 Q. See, you say "From this standpoint - a zero
2 nicotine cigarette has no taste in the mouth - yields no
3 nicotine in the lungs - and hence really has no potential to
4 provide smoking satisfaction."

5 A. That's correct.

6 Q. So what you're calling ---

7 What you're saying is taste is the motivating
8 factor to hold it in the lung. Am I right?

9 MS. MCDOLE: Objection. Asked and answered.

10 A. No. No. No. I don't agree with that at
11 all.

12 MS. MCDOLE: Mischaracterization.

13 Q. BY MR. MCCLAIN: Okay. Well, tell me what it
14 means then when you say, "From this standpoint - a zero
15 nicotine cigarette has no taste in the mouth - yields no
16 nicotine in the lungs - and hence really has no potential to
17 provide smoking satisfaction."

18 A. Well, it means that any cigarette that
19 doesn't have any nicotine in it is not acceptable to the
20 consumer and people will not smoke that kind of a cigarette.

21 Q. Because it has no taste?

22 A. Well, it has no ultimate satisfaction.

23 MS. MCDOLE: There's no question pending.

24 MR. MCCLAIN: No. He's explaining it.

25 Q. BY MR. MCCLAIN: Go ahead. What -- you --

Produced by E3RTC

52614 7445

1 A. Okay. You're saying that -- what we're
2 talking about here -- and no -- zero nicotine tobacco in any
3 shape or form will not meet consumer acceptance. Any
4 cigarette with zero nicotine in tobacco, regardless if it's
5 low tar or high tar, will not meet consumer satisfaction.
6 It will not be -- it will not meet consumer satisfaction and
7 people will not smoke it -- will not buy it.

8 Q. So in your view, did pH -- the increase in pH
9 increase so-called smoker satisfaction?

10 MS. MCDOLE: Objection to the form.

11 A. The only thing that pH had to -- was
12 important is to meet the taste preferences of the smokers.

13 Q. BY MR. MCCLAIN: And the more that they like
14 the taste, the more nicotine was absorbed into the lungs; am
15 I right?

16 MS. MCDOLE: Objection. Mischaracterization.

17 A. No. No. I don't agree with that.

18 Q. BY MR. MCCLAIN: Well, if there's no -- if
19 there's no correlation, then why do you say -- why do you
20 say, "From this standpoint - a zero nicotine cigarette has
21 no taste in the mouth - yields no nicotine in the lungs -
22 and hence really has no potential to provide smoking
23 satisfaction" if the two are not related? Why did you
24 relate them in this statement?

25 MS. MCDOLE: Objection. Mischaracterization.

1 They're related.

2 A. I don't understand your question. I think we
3 -- well --

4 Q. BY MR. MCCLAIN: You state here -- here in
5 the first paragraph --

6 A. Yeah.

7 Q. -- "The ultimate satisfaction comes from
8 nicotine which is extracted while the tar is held in the
9 lungs."

10 The satisfaction that you refer to there has
11 nothing to do with taste, does it?

12 MS. MCDOLE: At that point, objection to the form.

13 A. The satis-- the ultimate satisfaction is
14 related to the taste in that it's just a question of
15 preference. If you have two cigarettes -- one has the right
16 pH and the other does not have the right pH -- all other
17 things being equal, the consumer is likely to prefer the
18 cigarette with the right pH.

19 But the point is this: that if both
20 cigarettes are smoked, they'll get the same amount of
21 nicotine in the blood.

22 Q. BY MR. MCCLAIN: And what you're trying to
23 say, are you not, that if it's desirable to the taste, there
24 is a greater likelihood that they will retain that smoke in
25 their lungs and thereby absorb nicotine --

1 A. No, not necessarily.

2 MS. MCDOLE: Objection. Mischaracterization.

3 Q. BY MR. MCCLAIN: -- and attain -- listen to
4 my question -- and attain satisfaction?

5 MS. MCDOLE: It's the fourth time you've asked
6 that question. Objection. You're mischaracterizing
7 what this document says and what the witness has said.

8 MR. MCCLAIN: Well, I'm not mischaracterizing what
9 the document says.

10 MS. MCDOLE: Yes, you are. You're not reading it
11 right.

12 MR. MCCLAIN: Well, I am reading it right.

13 MS. MCDOLE: No, you're not.

14 MR. MCCLAIN: It says, "The ultimate satisfaction
15 comes from nicotine which is extracted while the tar is held
16 in the lungs."

17 MS. MCDOLE: Well, that's just that sentence.

18 Q. BY MR. MCCLAIN: Right? Isn't that what it
19 says?

20 MS. MCDOLE: You're ignoring all the sentences
21 before. Objection to the form.

22 A. Well -- while the smoker keeps the tar in the
23 lungs -- the smoke in the lungs.

24 Q. BY MR. MCCLAIN: And it's your contention
25 that unless it tastes good, they will not hold it in the

1 lungs. Am I right?

2 MS. MCDOLE: Objection. Objection to the form.

3 A. Oh, no. No. I don't say that.

4 Q. BY MR. MCCLAIN: Well, then why do you say
5 this: "From this standpoint - a zero nicotine cigarette has
6 no taste in the mouth - yields no nicotine in the lungs -
7 and hence really has no potential to provide smoking
8 satisfaction"?

9 MS. MCDOLE: Objection. That's the fifth time
10 it's been asked.

11 A. We're talking about two different things. On
12 the one hand we're talking about two cigarettes that have
13 the proper amount of nicotine in the tobacco. One has the
14 right taste, the other has -- doesn't have the right taste.
15 But if you inhale both to the same extent, you'll get the
16 same amount of nicotine in the blood.

17 Q. BY MR. MCCLAIN: But you're saying -- you're
18 saying that if it doesn't have the right taste, you will not
19 inhale it as a practical matter.

20 MS. MCDOLE: Objection.

21 A. Oh, yes, you will.

22 MS. MCDOLE: Objection to the form.

23 A. Yes, you will.

24 Q. BY MR. MCCLAIN: Then it's -- then it's --
25 then why worry about pH if the consumer will smoke it --

produced by RJRTC

52614 7449

1 A. It's purely a competitive problem -- a purely
2 competitive problem. You're competing with another
3 cigarette. One has the right pH; the other does not. But
4 then people smoke the one with the right pH.

5 It has nothing to do with ultimate smoking
6 satisfaction. It has nothing to do with the ultimate
7 smoking satisfaction.

8 Q. Then why worry about it?

9 MS. MCDOLE: Objection. Asked and answered.

10 A. You're competing with the Marlboro which
11 presumably has the right pH. You're competing with the
12 Marlboro which presumably has the right pH.

13 MS. MCDOLE: Doctor Senkus, you've already told
14 him this many times.

15 MR. MCCLAIN: You know, I object to you coaching
16 the witness. The witness is doing --

17 MS. MCDOLE: Coaching? I mean, he's gone through
18 the same questions multiple times.

19 MR. MCCLAIN: The witness -- the witness is -- the
20 witness is doing just fine.

21 MS. MCDOLE: Right. Yeah. Well, apparently he
22 can't penetrate your head here with what he's trying to say.

23 MR. MCCLAIN: I know. I'm just not able to grasp
24 these issues like you can. Of course, you've had the
25 documents in your possession far longer than I have.

1 MS. MCDOLE: Oh, gee, ken.

2 MR. MCCLAIN: With --

3 MS. MCDOLE: Let's see. You've only had them
4 about --

5 MR. MCCLAIN: With false claims of privilege for
6 decades.

7 MS. MCDOLE: You've only -- oh, right. So far --

8 MR. MCCLAIN: But other -- other than that --
9 other than that -- other than that, you know, your
10 elucidation was absolutely unhelpful. The witness is doing
11 great.

12 MS. MCDOLE: Let's see. So far -- excuse me. So
13 far, we're about three hours into this deposition. I have
14 yet to see a document that we formerly claimed privilege on,
15 and this document has been in your hands for at least six or
16 seven years.

17 MR. MCCLAIN: It is -- it is just -- you just have
18 been the model of forthcoming, ethical behavior in this and
19 other litigation. I commend you.

20 MS. MCDOLE: Thanks. I'll frame it.

21 Q. BY MR. MCCLAIN: Look over -- look over at
22 Page 81 of your present -- it says -- 81 says,
23 "Nevertheless, they will also say that people with
24 unfavorable cardiovascular response to nicotine, carbon
25 monoxide, and nitric oxide expose themselves to great risk

1 even at the 3 to 5 milligrams of tar level."

2 Do you see that?

3 A. Yes.

4 Q. What did you understand at this point in time
5 to be the -- to be an unfavorable cardiovascular development
6 -- or response to nicotine?

7 A. Well, this is based on what I read in
8 literature.

9 Q. Yeah. What did you read at that time -- as
10 of 1976?

11 A. The literature pointed to the fact that
12 nicotine does have a -- allegedly has an effect on the
13 cardiovascular system.

14 Q. Can you describe some of the symptoms of this
15 negative effect that you read about?

16 A. Well, one thing, it raises the pulse rate.

17 Q. What about decreasing circulation in limbs?

18 A. There may be some literature about that, yes,
19 uh-huh.

20 Q. And you were aware of that in 1976, were you?

21 A. It was in the literature.

22 Q. Look over at Page 87, would you?

23 A. (Reviewing document.)

24 MS. MCDOLE: I will point out for the record that
25 we're now in an area of the report that was not attributed

Produced by KFTC

CONFIDENTIAL

52614 7452

1 to Doctor Senkus.

2 MR. MCCLAIN: Well, let's look at it because the
3 numbering system is off. It began at the wrong spot, and
4 it appears --

5 Q. BY MR. MCCLAIN: Doctor Laurene worked for
6 you, did he?

7 A. Yes.

8 Q. Look at this. Maybe this is his part of the
9 presentation. Did you go from your presentation right into
10 his?

11 A. Let's see. (Reviewing document.) The
12 question was did I go into -- from my present into his?

13 Q. Or did he go immediate -- did he immediately
14 follow you?

15 A. As I remember it, he may have. Let's see.
16 (Reviewing document.) Oh, yeah. So he starts on 87. So
17 this is Laurene talking now at Page 87.

18 Q. Well, I think that it's a page off. I think
19 that page -- this -- if that is the case, then he started in
20 the middle of what had been your talk as opposed to at Page
21 88, which is a new slide.

22 MS. MCDOLE: Well, objection. Objection to that
23 assumption. There's no foundation for it.

24 MR. MCCLAIN: Well, it doesn't matter.

25 Q. BY MR. MCCLAIN: Look at Page 87. I don't

Produced by RJRTC
in CONFERENCE

1 know how it worked, but you tell me. Was this the position
2 -- was this your position in '87 -- no matter who made this
3 presentation -- "Satisfaction may be thought of as that
4 which satisfies a need. We feel that many things may enter
5 into smoking satisfaction but the most important by far is
6 nicotine. If this is so, then it seems to me that the last
7 thing we would want to give up in our product is the
8 nicotine level necessary to satisfy the smoker's need"?

9 Was that the position of research --

10 MS. MCDOLE: Objection. He's not --

11 Q. BY MR. MCCLAIN: -- In 1976?

12 MS. MCDOLE: He's not -- was no longer in research
13 in 1976. Objection to the form.

14 Q. BY MR. MCCLAIN: Well, you were the Director
15 of Scientific Affairs, right?

16 A. (No response.)

17 Q. Weren't you, Doctor Senkus?

18 A. Yes.

19 Q. Director of Scientific Affairs?

20 A. Uh-huh.

21 Q. Was this the company's position as of 1976 as
22 you understood it --

23 MS. MCDOLE: Objection.

24 Q. BY MR. MCCLAIN: -- from a scientific
25 standpoint?

1 MS. MCDOLE: Objection to the form.

2 Q. BY MR. MCCLAIN: You dropped the --

3 MS. MCDOLE: Objection to the form.

4 Q. BY MR. MCCLAIN: Let me ask the question
5 again.

6 MR. MCCLAIN: We already have your objection.

7 Geez.

8 Q. BY MR. MCCLAIN: "Satisfaction may be thought
9 of as that which satisfies a need. We feel that many things
10 may enter into smoking satisfaction but the most important
11 by far is nicotine. If that is so, then it seems to me that
12 the last thing we would want to give up in our product is
13 the nicotine level necessary to satisfy the smoker's need."

14 Now, my question is as of 1976, as the Director of
15 Scientific Affairs, was that the company's position in
16 regard to nicotine and satisfaction as you understood it?

17 MS. MCDOLE: Objection as to what the company's
18 position was.

19 A. Well, this is what I stated here; and I guess
20 this expresses in this particular paragraph what we have
21 mentioned several times in our meeting here. So it's a
22 reiteration of what we already have said.

23 Q. BY MR. MCCLAIN: All right. Do you --

24 MR. MCCLAIN: Would you like a break, Doctor
25 Senkus, for a few moments?

1 MR. AVRAM: I don't know whether he does, but I
2 would.

3 MR. MCCLAIN: All right. That'll be fine.

4 (OFF THE RECORD)

5 (Brief recess: 12:04 p.m. to 12:14 p.m.)

6 (BACK ON THE RECORD)

7 Q. BY MR. MCCLAIN: Doctor Senkus, I'm done with
8 this if -- I don't know why she's placed them in front of
9 you.

10 MR. MCCLAIN: Are you wanting to see them again?

11 MS. MCDOLE: They were in front of him. I'm just
12 putting -- I put the clip on the last document.

13 Q. BY MR. MCCLAIN: Hand them to her, then, if
14 you would, to get them out of your way -- or your counsel.
15 I'm just trying to clear them in front of you because we're
16 not going to look at those anymore unless someone else has a
17 question.

18 A. Is this the one that's coming up?

19 Q. No.

20 MS. MCDOLE: No. He's going to give you a new
21 document.

22 Q. BY MR. MCCLAIN: I'm going to give you one,
23 so I just want to get --

24 MR. MCCLAIN: Go ahead. If you'll just take
25 those. We'll get those to one side -- go to the court

1 reporter or whoever.

2 (Deposition Exhibit 14 was marked for
3 identification.)

4 Q. BY MR. MCCLAIN: Okay. I'm going to hand you
5 what we've marked as exhibit 14. Okay. Now I pulled this
6 one up -- this is -- I think that we can see from the last
7 page that this is a memorandum from Mr. Teague, and you had
8 received a copy of this -- at Page 5 before the appendices
9 begin.

10 A. (Reviewing document.)

11 Q. This is another secret memo that Mr. Teague
12 wrote to you?

13 MS. MCDOLE: Objection. Objection to
14 characterization. Objection to the use of a document that
15 has been available for years, and this witness could have
16 been deposed years ago on this document.

17 MR. AVRAM: Excuse me. Where does it say that it
18 was sent by whom to whom?

19 MR. MCCLAIN: Teague on the last -- on Page 5 --
20 "Xc" to Doctor Murray Senkus.

21 MR. AVRAM: Okay.

22 MR. MCCLAIN: Got it?

23 Q. BY MR. MCCLAIN: And I pulled this out
24 because earlier you had said that the phrase "free nicotine"
25 would have been something, I think that you said, that the

1 Research Department wouldn't have used.

2 MS. MCDOLE: Objection to the mischaracterization.

3 MR. MCCLAIN: Well, the record will speak for
4 itself.

5 Q. BY MR. MCCLAIN: But I want to go over and
6 look at Page 3. It says, "Chart XI compares Winston" -- do
7 you see where I am?

8 A. Yeah.

9 Q. It's in the third paragraph on Page 3.

10 A. Okay.

11 Q. Okay. And I'm going down to the sentence
12 that begins "Chart XIII suggests that market performance of
13 various brands correlates positively with total amounts of
14 'free' smoke nicotine" --

15 A. Yeah, uh-huh.

16 Q. -- "and that all brands surveyed having about
17 35 micrograms of 'free' nicotine/cigarette increased in
18 market share in the period studied."

19 Do you see that?

20 A. Yes.

21 Q. All right. Does that refresh your
22 recollection that the term "free nicotine in smoke" was used
23 by the Research Department at that time?

24 MS. MCDOLE: Objection to the form.

25 A. Not really.

1 Q. BY MR. MCCLAIN: And does that refresh your
2 recollection that the Research Department --

3 A. Did you notice that this is in asterisks --
4 in quotes?

5 Q. Sure.

6 A. And so it is just his way of saying free
7 nicotine, but there is no such thing as free nicotine.

8 Q. Did kind of Doctor Teague walk around and
9 whenever he'd use the term he'd say -- put the little quotes
10 by it and say free nicotine like that? (Attorney
11 indicating.) Is that how you remember it?

12 MS. MCDOLE: Objection to the form.

13 A. Well, I don't remember specifically; but as a
14 physical organic chemist, free nicotine is not appropriate
15 chemical term.

16 Q. BY MR. MCCLAIN: Does this -- does this
17 refresh your recollection that in this time period -- in the
18 seventies -- 1973 to be exact --

19 A. Well, then -- obviously, he used it; but he
20 did put it in quotes.

21 Q. Yes. And he, in fact, correlates free
22 nicotine with cigarette sales, does he not?

23 A. Well, in this memorandum he does; but I would
24 not support that idea.

25 Q. Who is Mr. -- Or D. H. Piehl -- P-i-e-h-l?

1 A. Oh. P-i-e-h-l. He was in the Biochemical
2 Division, I think.

3 Q. How do you say his name? It was a he?

4 A. Piehl.

5 Q. Piehl.

6 A. Piehl.

7 Q. Uh-huh.

8 A. Uh-huh.

9 Q. Do you recall him working on the issue of
10 increasing nicotine yields from R.J.R. cigarettes?

11 A. I'd like to see the document.

12 Q. Your wish is my command.

13 (Deposition Exhibit 15 was marked for
14 identification.)

15 A. (Reviewing document.) This is Don Piehl. He
16 was an organic chemist. Yeah. Okay. He was in the
17 Research Department.

18 Q. BY MR. MCCLAIN: And do you remember him
19 doing experimental work to determine nicotine yields of
20 cigarettes?

21 A. Well, I -- maybe at this point -- let's see.
22 What year is this?

23 Q. '77.

24 A. Yeah. I was then -- I believe I was at that
25 point Director of Scientific Affairs and was not intimately

1 involved with the work in the Research Department.

2 Q. Do you recall experiments being conducted
3 where they added malate -- is it malate salt -- malate?

4 A. Malate. Let's see. Where is that?

5 Q. Malate. It's in the -- it's in that first --
6 under the Number 1, second para-- second complete paragraph.

7 MS. MCDOLE: Objection. No foundation that this
8 witness was involved in any way in this project.

9 MR. MCCLAIN: That's what I'm asking him.

10 A. Where?

11 Q. BY MR. MCCLAIN: It's in -- it's here.

12 A. Oh. Oh, malate salt. Yeah. I was not at
13 that point directly involved with the work being conducted
14 in the Research Department because I think I was Director of
15 Scientific Affairs at this point.

16 Q. As Director of Scientific Affairs, what role
17 did you have in supervising the Research Department?

18 A. Well, I -- only as an adviser, but I was more
19 involved with -- on an industry-wide basis. That is --
20 industry-wide basis -- dealing with the overall smoking-
21 health problem -- controversy.

22 Q. Well, we'll come to that in a few moments,
23 but let's go on to another document.

24 Who is Mr. Perfetti?

25 (Deposition Exhibit 16 was marked for

1 identification.)

2 A. Oh. He is, I think, presently a member of
3 the Research Department, and I guess came sometime after I
4 left maybe even. So I don't know when he reported the
5 Research Department.

6 Q. BY MR. MCCLAIN: This is a document from
7 1978. You were still --

8 A. I --

9 Q. You were still there?

10 A. Well, no longer -- I was -- I was no longer
11 -- 1978. That was a year before my retirement, so I was not
12 very intimately involved with the Research Department.

13 Q. Did you become aware of his work relating
14 nicotine to opiates?

15 A. Perfetti?

16 Q. Yes.

17 A. No. No.

18 Q. Were you ever shown this document?

19 A. I don't recall seeing it.

20 Q. Do you ever remember any discussion while you
21 were in the Research Department or while you were Director
22 of Scientific Affairs of the relationship that nicotine had
23 to opiates and their behavior?

24 A. No, I don't remember anything like that. No,
25 I don't remember anything like that.

Produced by RJE/C

EXHIBIT

52614 7462

1 Q. Do you recall -- do you recall in 1978 any
2 efforts to improve the ammonia content of reconstituted
3 sheet tobacco?

4 A. No. I was not aware of anything like that
5 because, actually, I was probably in Belgium at that time --
6 a company representative on an industry-wide committee.

7 Q. So you were living in Belgium at the time?

8 A. For about -- a period -- like six months
9 maybe.

10 Q. What study were you performing in or about
11 1978, Doctor Senkus, on ammoniated G7? What is that all
12 about?

13 A. I'd like to see the document.

14 (Deposition Exhibit 17 was marked for
15 identification.)

16 MS. MCDOLE: Objection. No foundation that this
17 witness has seen this document and further objection that
18 all of these last few exhibits were produced long ago in the
19 litigation; and this witness could have been asked, I
20 suppose, if you thought it was relevant back then, about
21 these documents in a deposition taken within the appropriate
22 time period.

23 A. Well, I'd have to see this document, if I
24 ever wrote a document like that. I don't know what my
25 conclusions may have been.

1 Q. BY MR. MCCLAIN: Do you recall ---
2 Do you recall studying the issue of -- what
3 was G7?

4 A. It's reconstituted tobacco stems.

5 Q. And did you study the issue of ammonia on the
6 nicotine delivery of reconstituted tobacco sheet?

7 A. Ummm. If I wrote a report relating to this
8 -- I'd have to see the report. Talking about P.M. products
9 here. (Reviewing document.) This is Philip Morris
10 referring to how Philip Morris incorporated ammonia into
11 their cigarette.

12 Q. And had you done some work to investigate
13 that subject, Doctor Senkus?

14 A. I think that first statement -- opening
15 sentence is a misstatement. I mean, if I ever wrote a
16 document where I'm reporting a study -- I'd have to see the
17 document. I think maybe -- I'm speculating -- maybe he's
18 referring to my interpretation of what Philip Morris was
19 doing.

20 Q. This is one Reynolds employee to another
21 about -- allegedly about work you did? Is that how you
22 interpret this document?

23 A. "I believe the results of Doctor Senkus'
24 study are correct" -- I don't know what he means, and I
25 don't know who wrote this. Oh, Charlie Green. Okay.

1 Q. Who's Charlie Green?

2 A. He was one of the chemists that started with
3 the company in 1964 and continued to work in the organic
4 division after I left.

5 Q. And Doctor Piehl you've already identified?

6 A. Beg your pardon?

7 Q. Doctor Piehl you've already identified?

8 A. Yes, I have. And I know Charlie Green.

9 Q. And who is Schumacher?

10 A. He was also a chemist with the Research
11 Department. Came to work in 1954 or so.

12 Q. Were all these qualified people to discuss
13 these issues, as far as you understood it?

14 A. Yes, they're qualified people -- Piehl,
15 Green, Schumacher -- good workers.

16 Q. Now, you've told us previously that you were
17 involved with the C.T.R. and that you were -- during this
18 time period that you were Director of Scientific Affairs
19 working with other companies on the smoking and health
20 controversy. Do you recall telling me that?

21 A. Yes.

22 Q. And that was your role?

23 A. Primarily.

24 Q. Do you recall ---

25 Who is Mr. Kornegay?

1 A. Kornegay was the president of The Tobacco
2 Institute.

3 Q. Did you work with him?

4 A. I had -- every now and then had meetings with
5 him; and as my role of scientific affairs, I would meet with
6 him at times.

7 Q. Did you know Mr. William B. Lewis, the
8 Director of the American Cancer Society?

9 A. No, I did not know him.

10 (Deposition Exhibit 18 was marked for
11 identification.)

12 A. (Reviewing document.)

13 MS. MCDOLE: Again, I object to showing this
14 witness this document at this point.

15 A. I do not -- I do not recall being acquainted
16 with Mr. Lewis, Chairman, Board of Directors.

17 Q. BY MR. MCCLAIN: In this document they talk
18 about an industry advertisement from The Tobacco Institute
19 that said, "The question about" -- it was an advertisement
20 where the headline was "The question about smoking and
21 health is still a question."

22 Do you remember that advertising campaign, Doctor
23 Senkus?

24 A. Vaguely.

25 Q. It was the position of the tobacco industry

1 at the time that the allegations regarding smoking were
2 unproven as of 1971. Is that correct?

3 MS. MCDOLE: Objection. No foundation.

4 A. I don't recall specifically that the -- I
5 don't recall specifically that statement by the industry.

6 Q. BY MR. MCCLAIN: Well, when you became
7 involved in the smoking and health controversy, as you
8 called it, as the Scientific Director for Reynolds, wasn't
9 that the industry position?

10 A. There was ---

11 MS. MCDOLE: Objection. Mischaracterization of
12 the gentleman's title.

13 A. There was still a controversy.

14 Q. BY MR. MCCLAIN: Still a controversy that the
15 allegations against smoking have not been proven. Am I
16 right?

17 A. That's right.

18 Q. All right.

19 A. Have not been -- they haven't nailed the last
20 nail in the --

21 Q. Can you tell me, were you aware of the
22 criticism that the tobacco industry received that's
23 expressed in Number 1 here -- "The controversy about smoking
24 and health continues, largely, because of the energy, time
25 and money spent by the tobacco industry in keeping this

1 controversy alive"?

2 MS. MCDOLE: Objection. No foundation that this
3 witness saw the document or was aware of it.

4 A. "The controversy about smoking and health
5 continues, largely, because" --

6 Q. BY MR. MCCLAIN: You heard that criticism
7 while you were involved in the issue, didn't you?

8 MS. MCDOLE: Objection to the form.

9 A. No, I did not -- not aware of that particular
10 statement.

11 Q. BY MR. MCCLAIN: Well, weren't you aware of
12 criticisms of C.T.R. -- that the only reason that C.T.R.
13 existed was to create controversy about smoking and health?
14 You had heard that, hadn't you?

15 MS. MCDOLE: Objection. No foundation that this
16 witness had heard that.

17 A. No, I didn't hear that statement -- that they
18 would be prolonging the controversy -- that that was the
19 main -- I didn't hear that statement.

20 Q. BY MR. MCCLAIN: You worked with the lawyers
21 from Shook, Hardy & Bacon, did you?

22 A. Did I -- Beg your pardon?

23 Q. Did you work with the lawyers from Shook,
24 Hardy & Bacon?

25 MS. MCDOLE: Are you talking about at a later

1 time?

2 MR. MCCLAIN: No. During this time.

3 A. Earlier. Not this time, no.

4 MS. MCDOLE: What? In 1971? Objection to the
5 mischaracterization.

6 Q. BY MR. MCCLAIN: Did you work with them when
7 you were involved in the smoking and health issue?

8 A. Well, in 19-- between 1980 and 1983, I was
9 directly involved with smoke -- I was -- with Shook, Hardy &
10 Bacon.

11 Q. Were you involved indirectly with them before
12 that time?

13 A. Indirectly? Well, yes. At -- I've seen them
14 at meetings, yes. I didn't work with them, though. Before
15 1980, I did not work with them.

16 Q. Did you see representatives of Shook, Hardy &
17 Bacon at meetings of the C.T.R.?

18 A. Yes.

19 Q. And what was their role?

20 A. Of Shook, Hardy & Bacon at C.T.R.? I don't
21 specifically know what it might have been.

22 Q. But you saw them around?

23 A. Yes, I have.

24 Q. Uh-huh. Now in 1978 were you involved with
25 C.T.R.?

1 A. Well, that was kind of a phase-out situation.
2 And in 1978 I might have still even been involved with
3 C.T.R.; and shortly after that, I think the man from
4 American Tobacco took over that function.

5 MR. MCCLAIN: Let's mark this as an exhibit.

6 (Deposition Exhibit 19 was marked for
7 identification.)

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

in
HUMPHREY
PRIVILEGED MATERIAL REDACTED

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Produced by R.I.R.T.C.

in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7471

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

produced by R.J.R.T.C.

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

produced by R.I.R.T.C

in HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7474

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Produced by R.I.R.T.C.

in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Produced by R.I.R.T.C.

in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7476

PRIVILEGED MATERIAL REDACTED

HUMPHREY

in

produced by RJRTC

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Produced by R.I.R.T.C.

in HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7478

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Produced by RPTC

in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Produced by RELIANT

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Produced by EFTC

in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

Produced by BARTC

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

PRIVILEGED MATERIAL REDACTED

(Deposition Exhibit 21 was marked for identification.)

Q. BY MR. MCCLAIN: Here. Exhibit 21. It's true, isn't it, Doctor Senkus, in 1970 that in-house biological testing in the smoking/health area was terminated?

A. That's right.

Q. BY MR. MCCLAIN: "Any further biological testing that may be needed will be farmed out"?

A. Yes.

Q. But you continued to do work on the mung bean and tobacco beetle. Am I right?

A. Yes.

1 Q. And you continued to do work on how
2 cigarettes tasted. Am I right?

3 A. Yes, uh-huh.

4 Q. Did you understand that there was an
5 agreement between the other manufacturers -- the other
6 American manufacturers that they too would cease in-house
7 biological work?

8 MS. MCDOLE: Objection.

9 A. There was only a rumor, but I had no basis to
10 believe it.

11 Q. BY MR. MCCLAIN: Do you know Doctor Helmut
12 Wakeham?

13 A. Yes.

14 Q. Let me show you a document and see if this --
15 if you know about this subject.

16 (Deposition Exhibit 22 was marked for
17 identification.)

18 MS. MCDOLE: Object to questions about this
19 subject. Again, it could have been asked of this witness
20 years ago.

21 Q. BY MR. MCCLAIN: This is a document from
22 September of 1970. You were Director of Research at this
23 time --

24 A. Yes.

25 Q. -- of Reynolds?

1 A. Yes.

2 Q. Were you on technical committees of the
3 C.T.R.?

4 A. Yes.

5 Q. At that time, was there a change in the
6 director of C.T.R. from Doctor Little to --

7 A. Doctor Sommers maybe.

8 Q. Doctor Sommers?

9 A. Yeah.

10 Q. Were you aware that Wakeham was critical of
11 the replacement of Doctor Little as Scientific Director?

12 A. No, I was not aware of the fact that he was
13 critical of the replacement.

14 Q. And were you aware of how Doctor Sommers was
15 selected?

16 A. No, I was not aware how he was selected. No.

17 Q. Was he selected by scientists?

18 A. I don't know how he was selected.

19 Q. Do you see here that it's contended that he
20 was selected by the lawyers committee and The Tobacco
21 Institute without reference --

22 A. What page is that?

23 Q. This is on Page 2.

24 MS. MCDOLE: Objection. There's no foundation
25 that this witness has ever seen this exhibit.

Produced by RETC

EXHIBIT

52614 7486

1 A. I have not seen this memorandum.

2 Q. BY MR. MCCLAIN: It says, "Wakeham was still
3 critical in that the replacement for Doctor Little as
4 Scientific Director of C.T.R. is being sought by the lawyers
5 committee and The Tobacco Institute without reference to the
6 scientists."

7 Do you see that?

8 A. Let's see. That's under "Philip Morris
9 affairs"?

10 Q. "C.T.R. affairs." "However, Wakeham was
11 still critical in that the replacement" --

12 A. Okay. Yeah. (Reviewing document.) Okay.

13 Uh-huh, okay. I see that.

14 Q. Were you ever aware of that?

15 A. No, I was never aware of that. No. No.

16 Q. It says, "Public -- Philip Morris affairs --
17 one result of the greater influence which Wakeham has with
18 Mr. J. Cullman." Who is Mr. Cullman?

19 A. He was, I think, President or Chief Executive
20 Officer of Philip Morris.

21 Q. -- "has been the agreement, albeit reluctant,
22 to permit Philip Morris to do in-house biological work.
23 When this was first mooted, Wakeham was told that there
24 was a tacit agreement between the heads of the U.S.
25 companies that they will not be done."

1 Do you see that?

2 A. Yes.

3 Q. It --

4 MS. MCDOLE: Objection to the misreading.

5 MR. MCCLAIN: Well --

6 A. I see that, yes.

7 Q. BY MR. MCCLAIN: Let's read it -- you read it
8 so that I can be sure that it's read correctly, Doctor
9 Senkus.

10 A. "Wakeham was told that there was a tacit
11 agreement between the heads of the U.S. companies that this
12 would not be done."

13 Q. All right. And he said, "Wakeham had
14 countered by saying that he knew that Reynolds, Lorillard
15 and American were all undertaking some and that Liggett &
16 Myers had never been party to the agreement."

17 Is that at about the same time -- 1970 --
18 September of '70? Look back at the last exhibit we had
19 where you directed that all such work should stop.

20 A. About 1970, yes, uh-huh.

21 Q. Yeah. Were you aware of this so-called tacit
22 agreement?

23 A. I was not aware of it.

24 Q. You had heard rumors about it?

25 A. Just rumors.

Produced by RTRC

52614 7488

1 Q. And what rumors had you heard?

2 A. That there was this agreement.

3 Q. And subsequently you received direction from
4 management to cease biological testing. Am I right?

5 A. That's right.

6 Q. But you were still allowed to do work on the
7 mung and tobacco beetle and flavorants, correct?

8 A. Yes.

9 (Deposition Exhibit 23 was marked for
10 identification.)

11 Q. BY MR. MCCLAIN: Let me show you another
12 exhibit. Look on the last page. Do you recognize any of
13 the individuals that this document, which is from Cullman to
14 ~~Wakeham~~ -- from Wakeham to Cullman --

15 A. The people mentioned on the very last page?

16 Q. Yes. Do you know them?

17 A. I knew Goldsmith. I knew Holtzman. I knew
18 Smith, Cullman, Fagan, and Osdene.

19 Q. Tell me who they were.

20 A. Let's see. Goldsmith was Vice-President of
21 Philip Morris. Holtzman was counsel for Philip Morris and
22 so was Smith. Cullman was C.E.O. of Philip Morris. Fagan
23 was like a psychologist, and Osdene was organic research and
24 later became Director of Research.

25 Q. He was your counterpart of Philip Morris at

1 some point?

2 A. At one point, yes.

3 Q. Look over on Page 1 -- 2. It says, "It has
4 been stated that C.T.R. is a program to find out the truth
5 about smoking and health. What is truth to one is false to
6 another. C.T.R. and the industry have publicly and
7 frequently denied that -- what others find as truth. Let's
8 face it. We are interested in evidence which we believe
9 denies the allegation that cigarette smoking causes disease.
10 If the C.T.R. program is aimed in this direction, it is in
11 effect trying to prove the negative, that cigarette smoking
12 does not cause disease. Both lawyers and scientists will
13 agree that this task is extremely difficult, if not
14 impossible."

15 MS. MCDOLE: Objection. There's no foundation
16 that this witness has ever seen this document. Moreover,
17 you could have used this document years ago.

18 MR. MCCLAIN: Oh. Undoubtedly.

19 Q. BY MR. MCCLAIN: The -- coming back to the
20 question. Did you have discussions with persons from Philip
21 Morris while you were at C.T.R.?

22 A. Yes.

23 Q. Did they ever express to you that the purpose
24 of C.T.R. was to deny the allegation that cigarette smoking
25 causes disease?

1 A. No. No.

2 Q. Did they tell you that that was their purpose
3 in being involved in C.T.R.?

4 A. Wait a minute now. That -- whose purpose?

5 Q. Philip Morris.

6 A. Uh-huh. Well, they were part of C.T.R., yes.

7 MR. AVRAM: I don't think he understands the
8 question.

9 Q. BY MR. MCCLAIN: Did they express that their
10 reason for being involved in C.T.R. was to attempt to
11 disprove the association between cigarette smoke --

12 A. I never heard such a statement, no.

13 Q. Well, let me ask you, did you have that
14 understanding that that was their goal?

15 A. To disprove?

16 Q. Yes.

17 A. No, huh-uh. I didn't hear any such statement
18 from Wakeham.

19 Q. Now just so I'm clear, the lawyers -- you
20 didn't know about the lawyers' purpose in being involved in
21 C.T.R. and you didn't know what Philip Morris' purpose was
22 in being involved in C.T.R. Is that right?

23 A. Well, Philip Morris' purpose was as expressed
24 in the Frank Statement.

25 Q. You would agree --

1 A. As I understood it.

2 Q. As you understood it. You would agree that
3 if this memo is true, that Philip Morris really had an
4 ulterior motive. Isn't that so?

5 MS. MCDOLE: Objection.

6 A. No, I don't think so. I don't read it that
7 way.

8 Q. BY MR. MCCLAIN: It says, "We are interested
9 in evidence which we believe denies the allegation that
10 cigarette smoking causes disease."

11 MS. MCDOLE: Objection. It's a document written
12 by one person that this gentleman hasn't seen before.

13 Q. BY MR. MCCLAIN: Remind us who Wakeham was.

14 A. Beg your pardon?

15 Q. Who was Wakeham?

16 A. He was Vice-director of Research for Philip
17 Morris.

18 Q. Your counterpart?

19 A. More or less.

20 Q. A person that you would expect to understand
21 the position of the company on research issues. Am I right?

22 A. Yes, uh-huh.

23 Q. And can you tell me, did anyone from Philip
24 Morris ever tell you that their true motivation was to
25 disprove the association between smoking --

1 A. No. No. No such -- I never --

2 Q. You thought that their purpose was as stated
3 in the Frank Statement -- to get to the truth --

4 A. Yeah.

5 Q. -- about smoking and health, right?

6 A. You must understand that any meeting I had
7 with other -- with other direct -- research people at other
8 companies, that our conversation was such that we did not
9 discuss motives inside the company. It's not proper or
10 ethical to do that -- or professional.

11 Q. Well, since you brought it up, do you think
12 it's proper or ethical to tell the world that you intend to
13 get to the truth about smoking and health when your true
14 purpose is merely to disprove any association between
15 smoking and health? Do you think that's ethical or proper?

16 MS. MCDOLE: Objection to the form of the
17 question.

18 Q. BY MR. MCCLAIN: As a scientist?

19 A. Well, as he stated here -- I see nothing --
20 at that time I didn't see any effort being made to disprove
21 anything -- to disprove anything.

22 Q. What about the things that were being funded?

23 A. There were projects being funded.

24 Q. Look over at Page 2 -- "Option B. Use the
25 C.T.R. program as a means of establishing expert scientific

Produced by RJRTC

52614 7493

1 witnesses who will testify on behalf of the industry in
2 legislative halls, in litigations, at scientific meetings,
3 and before the press and public."

4 Did you know that that was one of Philip
5 Morris' objectives in funding ---

6 A. I didn't know that.

7 MS. MCDOLE: Well, objection to the
8 mischaracterization of the document.

9 Q. BY MR. MCCLAIN: Do you believe that's a
10 proper purpose of C.T.R. when you told the world -- "you"
11 being the companies -- told the world that it was going to
12 be a group of objective, uninterested scientists, Doctor
13 Senkus?

14 MS. MCDOLE: Objection to the form of the
15 question.

16 A. (Reviewing document.) Well, I never saw this
17 memorandum and this statement. I -- it's the first time I
18 see this statement.

19 Q. BY MR. MCCLAIN: And, Doctor Senkus, reading
20 it for the first time, it disturbs you, does it not?

21 MS. MCDOLE: Objection to the form of the
22 question.

23 A. Well, this is Doctor Wakeham's opinion.
24 That's his opinion. I would not have had the same opinion
25 at that time.

1 I mean, I had meetings with the Scientific
2 Advisory Board, and I considered them to be good scientists.
3 And they acted responsibly in approving projects for the
4 industry -- as funded by the industry.

5 Q. BY MR. MCCLAIN: You had no understanding in
6 your meetings with -- you did have meetings with Mr. Wakeham
7 during this time period, did you not?

8 MS. MCDOLE: During what time period? 1970?

9 A. We didn't enter into any such discussions.

10 Q. BY MR. MCCLAIN: But you did have meetings
11 with him, didn't you?

12 A. I had meetings, yes -- meetings had to do
13 with matters of interest to the whole industry.

14 Q. You and he were colleagues?

15 A. Yes, uh-huh.

16 Q. Competitors but colleagues?

17 A. That's right. Colleagues in matters
18 concerning the overall problems of the whole tobacco
19 industry.

20 Q. And in any of these meetings that you had
21 with him, did he tell you that as far as Philip Morris was
22 concerned that one of their goals was to cultivate expert
23 witnesses?

24 MS. MCDOLE: Objection to the form of the
25 question.

1 A. No. No. Nothing like that did he tell me.

2 MS. MCDOLE: Mischaracterization of the document.

3 Q. BY MR. MCCLAIN: Who was Doctor Freddy
4 Homburger?

5 A. He was a breeder of animals for biological
6 studies.

7 Q. Was he funded by C.T.R.?

8 A. I think at one point he submitted a proposal,
9 and it was approved.

10 Q. And it's true, isn't it, that his research --
11 that he believed his research showed a link between exposure
12 to cigarette components and cancer in laboratory animals?

13 MS. MCDOLE: Objection to the form.

14 A. That his research showed that there was --

15 Q. BY MR. MCCLAIN: A link between exposure of
16 mice --

17 A. I'd have to see that statement if he said it.

18 Q. What do you recall about his research?

19 A. He had a project that was approved by the
20 S.A.B.

21 Q. What was it?

22 A. I don't know specifically what it was. I
23 just know there was a project -- one of many.

24 Q. And was that project terminated?

25 A. I don't know for sure. I don't know.

1 MR. MCCLAIN: Let's mark this as an exhibit.
2 (Deposition Exhibit 24 was marked for
3 identification.)

4 MR. MCCLAIN: Let's go off the record for a
5 minute.

6 (OFF THE RECORD)

7 (BACK ON THE RECORD)

8 Q. BY MR. MCCLAIN: Does this refresh your
9 recollection about Doctor Homburger's work? You see you
10 were copied on this memo, by the way -- on the last page?
11 It's kind of hard to read. You're in the parentheses --
12 Senkus.

13 A. Uh-huh. Okay.

14 Q. Does this refresh your recollection?

15 A. Yes.

16 Q. And was his work terminated?

17 A. According to this memorandum.

18 Q. And was his work -- did his work show that,
19 in fact, mice developed cancer from being exposed to smoking
20 components?

21 A. Well, I'd have to -- I'd have to read this in
22 detail. (Reviewing document.)

23 Q. Look here. I think this will help you,
24 Doctor. It says, "As to your previous letter and attached
25 chronology, no useful purpose" -- do you see where I am?

1 A. Uh-huh.

2 Q. -- "no useful purpose would be served by
3 detailed reference to the mistakes and distortions contained
4 in them. However, a few general observations that have been
5 made to you several times deserves repetition. As you know,
6 and as I learned when I became affiliated with the council,
7 the contract with Bio-research Consultants, Inc. was for
8 support of a feasibility study for the exposure of hamsters
9 as laboratory animals to fresh smoke. Your experiences
10 indicated that the hamster was a species you considered most
11 desirable. The council and its Scientific Advisory Board
12 were desirous of getting an animal model that might give
13 cancer of the lungs similar to those arising in man and
14 associated statistically with exposure to cigarette smoke
15 over long periods of time. The hamster did not do this in
16 either of your nor" --

17 A. "Dontenwill's investigations."

18 Q. -- "Dontenwill's investigation."

19 "As we have told you several times, it was
20 for this as well as other reasons -- ranging from a choice
21 of the mouse over the hamster as the animal to be exposed to
22 consideration of available facilities for various aspects of
23 your work -- that we decided not to support further hamster
24 inhalation work at your laboratories."

25 Do you see that?

Produced by RETC

1 A. Uh-huh.

2 Q. Does that refresh your recollection?

3 A. As I read it -- I understand what I'm reading
4 here, yes.

5 Q. All right. And that they stopped funding
6 Doctor Homburger's work?

7 A. Well --

8 MS. MCDOLE: Well, objection. Objection to the
9 implication that it was -- funding was stopped in the middle
10 of the work.

11 A. Actually, as I read this, Doctor Gardner was
12 a very well-known scientist and was a good scientist; and he
13 explained the reason why he was terminated in his letter. I
14 think that the reason is clearly stated here.

15 Q. BY MR. MCCLAIN: Well, the question is -- the
16 question is was the work -- did they continue to fund the
17 work or did the funding stop?

18 MS. MCDOLE: Objection to the mischaracterization
19 of the document.

20 A. If I read this correctly, the funding was
21 stopped.

22 Q. BY MR. MCCLAIN: And do you recall whether or
23 not Doctor Homburger found a positive correlation
24 between --

25 A. I don't recall that, no. I do not recall

1 that.

2 MR. MCCLAIN: Give us five minutes. We'll look
3 through the rest of these documents and see if there's
4 anything else. I think we're about done.

5 (Off the record)

6 (Brief recess: 1:18 p.m. to 1:34 p.m.)

7 (Back on the record)

8 (Deposition Exhibits 25, 26, and 27 were
9 marked for identification.)

10 Q. BY MR. MCCLAIN: Doctor Senkus, we've taken a
11 break to review some documents. Have you reviewed them?

12 A. This one?

13 Q. Yes.

14 A. Yes. I've scanned them.

15 MR. AVRAM: Have you had a chance to read them?

16 THE WITNESS: I read this one, yes -- this.

17 MR. MCCLAIN: The -- just to make this record
18 clear, the lawyer for Reynolds left the room, as did the
19 lawyer for American. Counsel for the witness inquired of
20 the counsel for American whether she wanted to be present.
21 She did not, and the lawyer for Reynolds has left the room;
22 but we're --

23 MS. MCDOLE: Where did you see her? I don't know
24 where she is.

25 MR. AVRAM: She's on the right-hand side -- in the

1 room on the right-hand side.

2 MS. MCDOLE: Right here?

3 MR. AVRAM: No. Just go down the hall -- on the
4 right-hand side. She's right inside -- in that room right
5 there.

6 Q. BY MR. MCCLAIN: The document that I've
7 handed you, Doctor Senkus, is --

8 MR. MCCLAIN: Am I correct about that, counsel?

9 MR. AVRAM: Excuse me?

10 MR. MCCLAIN: Counsel, that you have informed
11 counsel for American about proceeding and -- is
12 that correct?

13 MS. MCDOLE: Courteous -- courteous as always.
14 Now let's go back and --

15 Q. BY MR. MCCLAIN: Is that correct, Doctor
16 Senkus?

17 MS. MCDOLE: Could you read back everything
18 they've said?

19 MR. MCCLAIN: No, we can't.

20 MS. MCDOLE: Just read back --

21 MS. MIDDELHOFF: I've not seen any of the
22 documents you've shown the witness.

23 MR. MCCLAIN: Well, counsel informed you that we
24 were proceeding, and you decided to stay out in the hall. I
25 can't be responsible for --

1 MS. MCDOLE: Ms. Reporter, could you please read
2 back everything that's been said while we've been gone?

3 MR. MCCLAIN: No. You can do that when it's your
4 time.

5 MS. MCDOLE: No. We're going to do it now.

6 Q. BY MR. MCCLAIN: Doctor Senkus, do you have
7 the documents?

8 MS. MCDOLE: No. We're going to do it right now.

9 A. Yes, I have.

10 Q. BY MR. MCCLAIN: You have read it? All
11 right. Looking at this --

12 MS. MCDOLE: Doctor Senkus, just a minute. I want
13 to know what happened when I was out of the room.

14 MR. MCCLAIN: You left.

15 MS. MCDOLE: No. Just stop --

16 MR. AVRAM: Hold up. Hold up.

17 MS. MCDOLE: -- or we'll call the court --

18 MR. MCCLAIN: Go ahead.

19 MS. MCDOLE: -- because I excused --

20 MR. MCCLAIN: Go ahead.

21 MS. MCDOLE: -- myself for a few minutes. Would
22 you just let me know what happened?

23 (Proceedings read back by court reporter.)

24 Q. BY MR. MCCLAIN: Doctor Senkus, do you
25 have --

1 MS. MCDOLE: What exhibit number are you asking
2 him about?

3 MS. MIDDELHOFF: Which exhibit are we asking about
4 here?

5 MR. MCCLAIN: He's got three in front of him.

6 MS. MIDDELHOFF: Well, I would like to know.

7 MS. MCDOLE: Which one are you asking him about?

8 Q. BY MR. MCCLAIN: Doctor Senkus, do you have
9 the letter from Shook, Hardy & Bacon in front of you?

10 A. I have three documents here.

11 Q. The letter from Shook, Hardy & Bacon.

12 MS. MCDOLE: Hang on. Hang on just a second.

13 What?

14 A. Yeah.

15 Q. BY MR. MCCLAIN: All right. And what is that
16 one numbered?

17 MS. MCDOLE: Hang on just a minute. Just a
18 minute.

19 (Off-the-record discussion between attorneys
20 McDole and Middelhoff.)

21 MS. MIDDELHOFF: GO AHEAD.

22 Q. BY MR. MCCLAIN: Doctor Senkus, what exhibit
23 number is that in front of you?

24 A. This is to Ahrensfield.

25 Q. I know that, but the exhibit number is 26?

1 A. Oh, yeah. That's what you're asking.

2 Q. Yes.

3 A. 26, 27, 28 -- 28?

4 Q. That's 25, I think.

5 A. Is that 25?

6 Q. Yeah.

7 A. Okay. So I have here before me 26, 27 and

8 25.

9 Q. Who are Ahrensfield, Greer, Henson, Pepples,
10 Stevens and Witt listed at the top? Do you know?

11 A. I think Stevens is counsel for Lorillard,
12 Pepples for Brown & Williamson, Greer -- Liggett Myers, Witt
13 for Reynolds, and Ahrensfield must be -- I don't know.

14 Q. Was Henson American's counsel?

15 A. Could have been.

16 Q. It says here, "During 1981, our firm has had
17 a consultancy arrangement with Doctor Murray Senkus that's
18 been funded through Special Fund 4 at a level of twenty-five
19 hundred per month plus expenses."

20 Was that the arrangement?

21 A. Yes.

22 Q. Next paragraph: "The vast majority of Doctor
23 Senkus' time has been spent working with Doctor Alex Spears
24 in exploring potential research areas and drafting
25 proposals."

1 Do you see that?

2 A. Is that the second paragraph? Yeah. Yes.
3 Okay. I see that.

4 Q. Okay. And was this work that you were doing
5 with Doctor Spears related to C.T.R.?

6 A. YES. No. No, not C.T.R. I don't think it
7 was C.T.R. It was just a project that was initiated by
8 Shook, Hardy & Bacon, as I understand it.

9 Q. Well, look at the last page. It says, "I
10 would appreciate hearing your response on this matter at the
11 Committee of Counsel meeting on December 10."

12 Were these men that are listed at the top
13 members of the Committee of Counsel? Do you know?

14 A. Say -- repeat that question.

15 Q. It refers to the Committee of Counsel here --
16 a Committee of Counsel meeting.

17 A. I'm not sure what that means -- Committee of
18 Counsel.

19 Q. Okay. Do you know whether or not the persons
20 on the front page were members of a so-called Committee of
21 Counsel of C.T.R.?

22 MS. MIDDELHOFF: Object to the form.

23 A. I'm not sure that that was a Committee of
24 Counsel. If I knew, I've forgotten.

25 Q. BY MR. MCCLAIN: Okay. Now look over at the

Produced by R.J.R.T.C.

CONFIDENTIAL

1 next document from Philip Morris, if you would.

2 A. Okay.

3 Q. Okay. It's addressed to Doctor Alex Spears
4 from Mr. Seligman.

5 A. Uh-huh.

6 MS. MCDOLE: What exhibit number are you on?

7 Q. BY MR. MCCLAIN: Seligman.

8 MS. MCDOLE: What exhibit number are you on now?

9 MR. MCCLAIN: I don't know. He's got the
10 exhibits.

11 THE WITNESS: 27.

12 MR. MCCLAIN: Do you have it?

13 MS. MCDOLE: Doctor Senkus, this is 27. Which one
14 have you got?

15 THE WITNESS: This is 27.

16 MR. AVRAM: This one is 26 -- 27. That's right.

17 Q. BY MR. MCCLAIN: Mr. Seligman, we've
18 established, was the Vice-President of Research and
19 Development at Philip Morris?

20 A. Philip Morris.

21 Q. In 1980?

22 A. Right.

23 Q. And he's writing to doctor alexander
24 spears --

25 A. Spears.

Produced by ETRC

52614 7506

1 Q. -- regarding industry research?

2 A. Uh-huh.

3 Q. Was this in conjunction with the -- your
4 assignment to work with Doctor Spears on industry research
5 projects?

6 A. As I -- I dealt directly with Shook, Hardy &
7 Bacon in projects or two initiated, and I stayed close with
8 those projects.

9 Q. Well, it says here, "The vast majority of
10 Doctor Senkus' time has been spent working with Doctor
11 Spears in exploring potential research areas and drafting
12 proposals."

13 Did you solicit proposals from other tobacco
14 companies in regard to research --

15 A. No.

16 Q. -- that you recall?

17 A. No. No.

18 Q. Did you know what Doctor Spears was doing
19 that during the time that you were acting as a consultant to
20 him?

21 A. He may have been.

22 Q. But you didn't know about it?

23 A. I did not know about it.

24 Q. Did you know -- look back here -- that the --
25 that Philip Morris suggested that the subjects to be avoided

produced by RJRTC

52614 7507

1 were new tests for carcinogenicity?

2 A. I did not know that.

3 Q. Or that no attempt be made to relate human
4 disease to smoking?

5 A. I did not know that.

6 Q. Or conduct experiments which require large
7 doses of carcinogens to show additive effect of smoking?

8 A. I did not know that.

9 Q. Did you know any of that --

10 a. I did not know any of that.

11 Q. -- when you were consulting Doctor Spears?

12 He didn't tell you about that either, did he?

13 A. No, he did not.

14
15 PRIVILEGED MATERIAL REDACTED
16

17 MS. MIDDELHOFF: Let me make an objection for the
18 record to the use of this document on the grounds of
19 the attorney/client privilege and any additional privileges
20 or protections subject to the court's order.
21

22
23 PRIVILEGED MATERIAL REDACTED
24

25 MS. MCDOLE: Hang on just a minute.

52614 7508

produced by RJRTC

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

in

HUNTER-HIRBY

PRIVILEGED MATERIAL REDACTED

52614 7509

produced by RJRTC

HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7510

Produced by ERIC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7511

produced by R.JRTC

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7512

1 PRIVILEGED MATERIAL REDACTED
2

3 MR. MCCLAIN: THANK YOU. NO FURTHER QUESTIONS.

4 MS. MCDOLE: Doctor Senkus, I have a few
5 questions. Want to take a break first or are you ready to
6 go?

7 THE WITNESS: Well, no. I'd soon go ahead if
8 you're ready.

9 MS. MCDOLE: Okay. Let me just change positions.

10 MR. MCCLAIN: Do you want to take it from over
11 here? I'll move.

12 MS. MCDOLE: No.
13

14 EXAMINATION

15 BY MS. MCDOLE:

16 Q. First of all -- I don't think this was done
17 before. Could you state your full name for the record,
18 Doctor Senkus.

19 A. Murray Senkus.

20 Q. Okay. And where were you born, Doctor
21 Senkus?

22 A. In Saskatchewan.

23 Q. Okay. And what year were you born?

24 A. 1914.

25 Q. When did you immigrate to this country -- to

Produced by EATC

UNOFFICIAL

52614 7513

1 the United States?

2 A. 1936.

3 Q. And where do you reside now?

4 A. In [DELETED]

5 Q. Okay.

6 [DELETED]

7 A. Beg your pardon?

8 Q. [DELETED]

9

10 A. Yes, uh-huh.

11 Q. And how long have you lived here in

12 [DELETED]

13 A. Since 1951.

14 Q. Okay. Now, you said you retired from R. J.

15 Reynolds tobacco company in 1979.

16 A. 1979.

17 Q. Is that correct?

18 So that's a little bit more than twenty (20)

19 years ago?

20 A. Twenty (20), yes.

21 Q. Yes. A little bit more than twenty (20)

22 years.

23 A. Twenty-two (22).

24 Q. Twenty-two (22) years. Okay. And you were

25 shown many documents today that are thirty (30) or forty

produced by R. J. R. T. C.

EXHIBIT

52614 7514

1 (40) or more years old, correct?

2 MR. MCCLAIN: Object to the form of the question.
3 It's leading.

4 MR. AVRAM: You can go ahead and answer.

5 A. Thirty (30) or forty (40) --

6 Q. BY MS. MCDOLE: Years old. Many of the
7 documents you saw today --

8 A. Yes. Uh-huh, yeah.

9 MR. MCCLAIN: Object to the form of the question.
10 It's leading.

11 Q. BY MS. MCDOLE: Many of the documents you saw
12 today are thirty (30) or forty (40) years old, aren't they?

13 A. Yes, uh-huh.

14 Q. Now I'm going to ask you a few questions
15 about some of the documents that Mr. McClain showed you. I
16 want you to take a look first of all at Exhibit Number 2.
17 Do you remember that you saw that earlier today?

18 A. Yes.

19 Q. Okay. That -- Exhibit Number 2 is a document
20 dated April 4, 1960. And you authored that document,
21 correct?

22 A. Yes.

23 MR. MCCLAIN: Object to the form of the question.
24 It's leading.

25 Q. BY MS. MCDOLE: And you were reporting on a

produced by RJLTC

UNRECORDED

52614 7515

1 conference on cardiovascular effects of nicotine and
2 smoking. Is that correct?

3 MR. MCCLAIN: Object to the form of the question.
4 It's leading.

5 A. Yes.

6 Q. BY MS. MCDOLE: Okay. And where did that ---
7 You attended that conference, right?

8 A. Yes.

9 Q. Okay. Where did that conference occur?

10 A. In New York.

11 Q. And who sponsored that conference?

12 A. New York Academy of Sciences.

13 Q. Okay. Is that a -- is that related to the
14 tobacco industry in any way?

15 A. No, not that I know.

16 Q. All right. And you said you attended the
17 conference. How many other people attended that conference?

18 A. Specifically, I don't know the number.

19 Q. Okay. Take a look at Exhibit 2, which you
20 wrote, paragraph numbered 2 -- paragraph -- the second
21 paragraph of the exhibit.

22 A. Uh-huh.

23 Q. The first sentence says, "Approximately 160
24 people attended the meeting."

25 A. Yes, uh-huh.

Produced by RJRTC

HUMPHREY

1 Q. Do you see that?

2 MR. MCCLAIN: Object to the form of the question.
3 It's leading.

4 Q. BY MS. MCDOLE: Does that refresh your
5 recollection as to how many people attended the conference
6 here in New York?

7 MR. MCCLAIN: Object to the form of the question.
8 It's leading.

9 A. Yes.

10 Q. BY MS. MCDOLE: Okay. What is your
11 recollection as to how many people attended the conference
12 in New York?

13 A. Many people.

14 Q. Okay. Approximately a hundred and sixty
15 (160) people?

16 MR. MCCLAIN: Object to the form of the question
17 for the third time. It's leading.

18 A. Well, I said a hundred and sixty (160) -- as
19 I wrote here.

20 Q. BY MS. MCDOLE: Okay. And were all those
21 people affiliated somehow with the tobacco industry?

22 A. No.

23 Q. Okay. Where were most of those people from?
24 Where were most of those people associated?

25 MR. MCCLAIN: Object to the form of the question.

produced by RJRTC

52614 7517

1 A. I don't recall.

2 Q. BY MS. MCDOLE: Okay. Were there people
3 there who were from the medical profession?

4 MR. MCCLAIN: Object to the form of the question.

5 A. There may have been.

6 Q. BY MS. MCDOLE: Okay. Take a look at the
7 last sentence of that second paragraph of that memo -- on
8 Exhibit 2, second paragraph on Page 1. The paragraph that
9 begins "Approximately 160 people attended the meeting."

10 Do you see that?

11 A. Yes.

12 Q. Okay. At the end of the paragraph it says,
13 "Many of those in attendance were from medical centers who
14 either presented papers (approximately 33 papers were
15 presented) or were listed as co-sponsors (total number of
16 co-authors" -- or "were listed as co-authors" -- I think it
17 says -- "(total number of co-authors - 67)."

18 Is that right? Did I read that right?

19 MR. MCCLAIN: Object. Object to the form of the
20 question. It's leading.

21 A. Yes, uh-huh.

22 Q. BY MS. MCDOLE: Okay. All right. So did
23 people attend the conference who were from the medical
24 profession?

25 MR. MCCLAIN: Object to the form of the question.

Produced by RJRTC

52614 7518

1 A. Yes.

2 Q. BY MS. MCDOLE: And did people from the
3 conference -- I'm sorry. Did people from the medical
4 profession present papers at the conference in New York?

5 MR. MCCLAIN: Object to the form of the question.

6 No --

7 A. I would imagine.

8 MR. MCCLAIN: No independent knowledge.

9 Q. BY MS. MCDOLE: Okay. And did -- well, you
10 attended the conference, didn't you, Doctor?

11 A. Beg your pardon?

12 Q. You attended that conference that you're
13 reporting --

14 A. Yes, I did, uh-huh.

15 Q. Okay. And do you recall that people from the
16 medical profession presented papers at the conference as
17 you've suggested right here in the paragraph numbered 2?

18 MR. MCCLAIN: Object to the form of the question.
19 It's leading.

20 A. What is the question again?

21 Q. BY MS. MCDOLE: The question is do you recall
22 that there were people from the medical profession who
23 presented papers at the meeting as you reported here in
24 Exhibit Number 2?

25 MR. MCCLAIN: Object to the form of the question.

Produced by RJRTC

52614 7519

1 It's leading.

2 A. I guess -- there were people from the medical
3 profession there.

4 Q. BY MS. MCDOLE: Okay. And were they present
5 when other people presented the papers that you're reporting
6 on here in Exhibit Number 2?

7 MR. MCCLAIN: Object to the form of the question.

8 A. Let's see. Were they present?

9 Q. BY MS. MCDOLE: Were these other people --

10 A. Oh, yeah.

11 Q. -- from the medical profession --

12 A. There were other people.

13 Q. -- present during the presentation --

14 A. Uh-huh.

15 Q. -- of the papers that --

16 A. Uh-huh.

17 Q. -- Mr. McClain asked you about?

18 A. Yes.

19 Q. Okay. And you also say in paragraph -- in
20 the first paragraph of your report, Exhibit Number 2, that a
21 monograph is "to be published by the academy in two or three
22 months."

23 Is that what it says? Do you see that at the
24 end of the paragraph?

25 A. Yes, uh-huh.

1 Q. What's a monograph? Let me read the whole
2 sentence. It says, "The papers which were presented and the
3 discussions will be compiled in a monograph which is to be
4 published by the Academy" -- that's the -- is that the
5 Academy of Sciences?

6 MR. MCCLAIN: Object to the form of the question.

7 Q. BY MS. MCDOLE: -- "in two or three months"?

8 MR. MCCLAIN: Object.

9 Q. BY MS. MCDOLE: Do you see that sentence?

10 MR. MCCLAIN: The document is its own best
11 evidence. The witness clearly doesn't have a recollection.
12 He's simply reading what you've put in front of him. You
13 don't have that ability. He's not adverse to you --

14 VIDEOGRAPHER: Excuse me. We need to stop. The
15 tape just stopped before it was supposed to.

16 (Off the record)

17 (Back on the record)

18 Q. BY MS. MCDOLE: Doctor Senkus, we're back on
19 the record. Doctor senkus, you've got Exhibit 2 in front of
20 you.

21 A. Yes.

22 Q. This is the report that you prepared?

23 A. Yes.

24 Q. Okay. Now I'd like to direct your attention
25 to that first paragraph --

1 A. Yes.

2 Q. -- of Exhibit 2, the last sentence of the
3 paragraph. It says, "The papers which were presented and
4 the discussion will be compiled in a monograph which is to
5 be published by the academy in two or three months."

6 Do you see that?

7 A. Yes, uh-huh.

8 Q. All right. And was it the academy -- the New
9 York Academy of Sciences that was going to publish that?

10 A. Yes. Yes.

11 Q. Okay. Was there anything secret about this
12 meeting, Doctor Senkus?

13 A. No.

14 Q. Okay. It was open --

15 A. Open meeting.

16 Q. And the subjects that are discussed in your
17 report here, Exhibit 2 -- were those subjects discussed to
18 anyone who wanted to attend the conference?

19 A. It was an open meeting.

20 Q. Turn, if you would, to Page 2 of that
21 document, Exhibit Number 2; and under the heading number II
22 it says, "Effect of smoking on the heart."

23 Do you see that?

24 A. I see that.

25 Q. Okay. The first sentence says, "It has been

Produced by RJRTC

EXHIBIT

52614 7522

1 recognized for some time that nicotine disturbs the" -- and
2 I can't make out that word -- "rhythm of the heart."

3 Do you see that?

4 A. Yes.

5 Q. All right. When you say it was "recognized
6 for some time," what did you mean by that? Recognized
7 where? Did you mean that it had been recognized in the
8 literature?

9 MR. MCCLAIN: Object to the form of the question.
10 It's leading.

11 Q. BY MS. MCDOLE: Doctor Senkus --

12 A. Yeah. I hear you.

13 Q. Let me ask you a different question. In ---
14 Doctor Senkus, in 1960, had it been published
15 in the scientific literature that nicotine can disturb the
16 rhythm of the heart?

17 A. Well, I cannot tell you the basis for making
18 that statement at this time.

19 Q. Okay. What do you believe you were referring
20 to?

21 A. Beg your pardon?

22 Q. What do you believe you were referring to?

23 MR. MCCLAIN: Object to the form of the question.
24 It calls for speculation.

25 A. Either I had read before or I heard at the

produced by RTTC

in HUMPHIRE

1 meeting that nicotine disturbs the rhythm of the heart.

2 Q. BY MS. MCDOLE: All right. And did you hear
3 at the meeting that it was recognized for some time --

4 A. I don't recall.

5 Q. -- that nicotine had that --

6 A. I don't recall.

7 Q. That's what you wrote, isn't it?

8 A. Yeah.

9 Q. Okay.

10 MR. MCCLAIN: Object to the form of the question.

11 Q. BY MS. MCDOLE: Would you have written
12 something you didn't hear?

13 MR. MCCLAIN: Object to the form of the question.
14 It calls for speculation.

15 A. Well, it was either -- I either heard it or
16 read it.

17 Q. BY MS. MCDOLE: Okay. And you did your best
18 to report what you had heard at the meeting in New York,
19 correct?

20 A. Beg your pardon?

21 Q. You did your best to report what you had
22 heard --

23 A. Exactly. Yes, uh-huh.

24 Q. -- at the meeting in New York in Exhibit
25 Number 2, correct?

produced by RJRTC

1 A. Yeah, uh-huh.

2 Q. Now, there was some discussion in the earlier
3 questioning about Doctor Teague, and you said that Doctor
4 Teague was full of ideas.

5 A. Yes.

6 Q. And do his memos that we've reviewed today
7 reflect that he was full of ideas in your opinion?

8 A. Yes.

9 Q. Okay. Were all of his ideas, Doctor Senkus,
10 implemented?

11 A. No.

12 Q. Okay. Did you in any way restrain people
13 within your department from writing out their ideas?

14 A. I did not in any way, shape, or form restrain
15 them.

16 Q. Okay. In fact, did you encourage them --

17 A. I encouraged them.

18 Q. Why did you encourage them to write out their
19 ideas?

20 A. My concept of running a Research Department
21 of scientists is to let them -- free to make suggestions and
22 ideas.

23 Q. And did you get a lot of suggestions and
24 ideas?

25 A. Yes, I did. Got many suggestions.

Produced by RJRTC

HUMPHREY

1 Q. And were all of them followed up on and
2 implemented by the company?

3 A. Not all of them.

4 Q. Now, I think you said in response to some of
5 the questions that were asked earlier that you did not agree
6 with some of Doctor Teague's ideas. Is that right?

7 A. No, I did not. Nor did I even understand his
8 reasoning at times.

9 Q. Now, could you tell us -- who is Doctor Gory?

10 A. Doctor --

11 Q. Gory.

12 A. -- Gory. Well, at one time, he was very much
13 -- played a very prominent role in the national cancer
14 institute and may have been the director for a while.

15 Q. Okay. That's --

16 A. Or Assistant Director.

17 Q. Of the National Cancer Institute?

18 A. Of the National Cancer Institute.

19 Q. Okay. And did he become involved in any
20 research relating to smoking and cigarettes?

21 A. Well, actually, he was the chairman of the
22 Tobacco Working Group.

23 Q. Okay. The Tobacco Working Group, is that
24 also known as the T.W.G.?

25 A. Tobacco working group. Yeah. T.W.G.

produced by R.J.T.C

HUMANITARIAN

52614 7526

1 Q. Okay. And what was -- tell us what the
2 Tobacco Working Group was.

3 A. It was a group that was initiated by Doctor
4 Endicott, the Director of the Cancer Institute back in '68
5 -- '68 -- '69.

6 Q. Right. And what was the purpose of the
7 Tobacco Working Group?

8 A. Well, as stated at him at first was to
9 develop a safer cigarette.

10 Q. Okay. Now, was Doctor Endicott or Doctor
11 Gory in any way associated with the tobacco companies?

12 A. No, they were not.

13 Q. Okay. Were they independent of the tobacco
14 companies?

15 A. Well, they were employees of the National
16 Cancer Institute.

17 Q. Okay. Now, did they actually do some work on
18 trying to find or develop a safer cigarette?

19 A. Well, the Tobacco Working Group -- that was
20 the -- shall we say the aim of the Tobacco Working Group.

21 Q. Okay. And Doctor Gory was associated with
22 the Tobacco Working Group?

23 A. He was the chairman.

24 Q. Okay. Now, was one of the ideas of Doctor
25 Gory to try to develop a cigarette that would have a high

produced by RJC

52614 7527

1 nicotine count with respect to tar -- in other words, much
2 greater nicotine than tar?

3 MR. MCCLAIN: Object to the form of the question.
4 It's leading.

5 A. Well, most of the -- in most of the
6 cigarettes available on the market, you have a definite
7 nicotine/tar ratio.

8 Q. BY MS. MCDOLE: Correct.

9 A. And he was promoting the idea of increasing
10 the tobacco/tar ratio.

11 Q. When you say the tobacco/tar ratio -- did you
12 mean to say tobacco/tar ratio?

13 A. Nicotine/tar ratio.

14 Q. Okay. Explain -- explain -- so state it --
15 why don't you restate the answer.

16 A. Okay. So his -- his aim was to -- or his
17 proposal or suggestion -- recommendation -- was to take the
18 existing tar ratio and to increase the tar/nicotine ratio.

19 Q. Okay. And tell us what you mean about
20 increasing the tar/nicotine ratio.

21 A. Well, if the tar/nicotine ratio --

22 Q. What did he want more of in the cigarette?

23 A. Well, if the nicotine/tar ratio, let's
24 assume, is ten to one --

25 Q. Meaning -- what's ten and what's one?

Produced by RJRTC

HUMPHREY

1 A. Ten milligrams of tar to one milligram of
2 nicotine.

3 Q. Okay.

4 A. One milligram of nicotine to ten milligrams
5 of tar. That's a nicotine/tar ratio.

6 Q. Okay.

7 A. He would want to increase that from one to
8 ten to one point five to ten.

9 Q. Okay. So increase the component of nicotine
10 in the ratio?

11 A. Increasing the nicotine content of the tar.

12 Q. Okay. All right. And why did he want to do
13 that?

14 MR. MCCLAIN: Object to --

15 Q. BY MS. MCDOLE: And when we say -- and when
16 we're talking about "he," we're talking about Doctor Gory?

17 MR. MCCLAIN: Object to the form.

18 A. Yeah, I'm talking about Gory.

19 Q. BY MS. MCDOLE: Okay.

20 MR. MCCLAIN: It calls for speculation.

21 Q. BY MS. MCDOLE: And you worked with Doctor
22 Gory, didn't you?

23 A. Yes, I did.

24 Q. Okay.

25 MR. MCCLAIN: It calls for speculation.

produced by RJRTC

HUMPHREY

1 Q. BY MS. MCDOLE: And did you discuss with him
2 his ideas about changing the tar/nicotine ratio?

3 MR. MCCLAIN: Objection. Hearsay.

4 A. We discussed it, yes.

5 Q. BY MS. MCDOLE: Okay. And did he explain to
6 you why he wanted to change it?

7 MR. MCCLAIN: Objection. Hearsay.

8 A. Yes, he did.

9 Q. BY MS. MCDOLE: Okay. And what did he tell
10 you?

11 A. His idea was that for the smoker to get the
12 desired amount of nicotine by increasing the nicotine/tar
13 ratio would be -- you would be getting less tar.

14 Q. Okay. And about when did he have this idea
15 -- during what period of time?

16 A. It was towards the end of the existence of
17 the tobacco working group.

18 Q. Okay. And could you tell us what years
19 approximately?

20 A. I guess we're talking about the time that
21 Kalafano became surgeon general.

22 Q. Can you put -- can you put years on that for
23 us?

24 A. Let's see. '78, I guess -- '78 -- '77 -- '76
25 -- in that period.

Produced by RJRTC

52614 7530

1 Q. Okay. Now, let me show you deposition
2 Exhibit Number 5, which is one of the Teague memos that Mr.
3 McClain showed you. Do you remember seeing that?

4 A. Yes, uh-huh.

5 Q. Okay. And this is a memo -- Exhibit Number 5
6 was a memo written in the 1970's by Doctor Teague, correct?

7 A. Yes.

8 Q. And did -- was Doctor Teague proposing to
9 change the tar/nicotine ratio himself?

10 A. Yes.

11 Q. Okay. And was he proposing to increase the
12 amount of nicotine --

13 A. To increase the amount of nicotine in the
14 tar.

15 Q. Okay. That was the same idea that Doctor
16 Gory had, correct?

17 A. Yes.

18 Q. Let me show you what you were previously
19 asked about -- Exhibit Number 10. Exhibit Number 10 is
20 entitled "Motives and incentives in cigarette smoking," and
21 do you remember being asked about that document?

22 A. Yes.

23 Q. And turn, if you would, to Page 3 of Exhibit
24 10. You remember you were asked about the second paragraph
25 of that page that says, "The St. Martin conference was

Produced by RRTC

52614 7531

1 called by the Council for Tobacco Research, U.S.A., in an
2 effort to goad the scientific community into having another
3 go at the problem."

4 Do you see that?

5 A. Yes.

6 Q. And I think you told us that you attended
7 that St. Martin conference. Is that right?

8 A. I did.

9 Q. Okay. Now, was that St. Martin conference
10 open to the scientific community?

11 A. It was.

12 Q. Okay. It wasn't just tobacco people,
13 correct?

14 A. There were other people there.

15 Q. Okay. And this document that's Exhibit 10 --
16 it says -- still in that same paragraph that I was having
17 you read on Page 3, it says, "Much of what follows in this
18 presentation comes from that St. Martin conference."

19 A. Uh-huh.

20 Q. Do you see where it says that?

21 A. Yes.

22 Q. Okay. And is that your understanding -- that
23 much of what's written here --

24 A. Yes. Yes.

25 Q. -- comes out of that St. Martin conference?

Produced by RJRTC

HUMPHREY

1 A. Uh-huh.

2 Q. Okay. And is that the conference that was
3 open to the scientific community?

4 A. Yes.

5 MR. MCCLAIN: Object to the form of the question.
6 It's leading.

7 Q. BY MS. MCDOLE: And were the subjects that
8 were discussed in this Exhibit Number 10 subjects that were
9 discussed during this meeting that was sponsored by C.T.R.
10 and open to the scientific community?

11 MR. MCCLAIN: Object to the form of the question.
12 It's leading.

13 A. Restate that, please.

14 Q. BY MS. MCDOLE: Sure. The items that are
15 discussed in this Exhibit 10 from that point forward --
16 those things were discussed at the St. Martin conference
17 that was open to the scientific community?

18 A. They were, uh-huh.

19 Q. Okay. Let me hand you Exhibit 13 that you
20 were asked about by Mr. McClain, and let me ask you -- first
21 of all, as a result of the research that you were aware of
22 concerning the pH of smoke --

23 A. Uh-huh.

24 Q. -- did you come to any conclusion as to why
25 Marlboro was so successful?

Produced by RJRTC

52614 7533

1 A. It was because of the advertising.

2 Q. Okay. What do you mean by "because of the
3 advertising"?

4 A. Because in trying to find the reason for the
5 success of the Marlboro -- it kept on gaining over the
6 Winston -- we theorized it was the pH of smoke.

7 Q. Yes.

8 A. So we went ahead and did some market testing
9 where we matched the cigarette in every shape and form and
10 put it on a market test, and there was no difference when
11 the brands were not identified; but if the same cigarettes
12 were presented with Marlboro in a cigarette test, they would
13 choose the Marlboro. So it was, we considered, the name
14 that went with the appeal for the public.

15 Q. Okay.

16 MR. MCCLAIN: Object to the form. I object to the
17 answer as being without sufficient foundation and
18 ask that it be stricken.

19 Q. BY MS. MCDOLE: Now, you said experimentally
20 you had matched the pH --

21 A. Yeah.

22 Q. -- in Marlboro. Do you know, Doctor Senkus,
23 whether -- or to your knowledge, were any cigarettes sold by
24 R.J.R. where you had tried to match the pH of Marlboros --
25 made available generally?

Produced by RJRTC

1 A. Such cigarette was not manufactured for sale
2 because the test did not justify changing the brand --
3 changing Winston.

4 Q. Okay. And why do you say the test did not
5 justify changing the Winston?

6 A. Let's see now.

7 Q. Why do you say because of the test -- the
8 result did not --

9 A. The test showed us that pH was not the answer
10 because it's just -- we assumed that it was the promotional
11 capability of Philip Morris.

12 Q. Okay. Let me ask you to turn to Page 64 of
13 Exhibit 13 for a minute. And you might --

14 A. This one?

15 Q. Yes. You might want to remove that clip to
16 make it easier for you to flip.

17 A. (Reviewing document.)

18 Q. Mr. McClain asked you about something at the
19 top of that page where it says, "The nicotine in the blood
20 acts upon the central nervous system and produces in the
21 average smoker a sensation one could describe as either
22 stimulating or relaxing."

23 Do you see that?

24 A. Yes.

25 Q. Okay. That was well-known by that time,

Produced by RJRTC

52614 7535

1 wasn't it?

2 MR. MCCLAIN: Object to the form of the question.

3 Q. BY MS. MCDOLE: Was that well-known --

4 MR. MCCLAIN: Lacks foundation.

5 Q. BY MS. MCDOLE: Was that well-known by this
6 time, Doctor?

7 A. YES.

8 Q. That wasn't any secret about nicotine --

9 A. No. Actually, it's in the literature that it
10 does act on the central nervous system.

11 Q. Okay.

12 A. That that -- we read that in 1951.

13 Q. Did you say 1951?

14 A. I read it in 1951.

15 Q. Okay. All right. Turn, if you would, now to

16 Page 81.

17 A. (Reviewing document.)

18 MR. AVRAM: One more.

19 Q. BY MS. MCDOLE: One more.

20 A. 81.

21 Q. Yes. Now, Mr. McClain asked you about a
22 paragraph -- the third paragraph on the page that starts
23 "Nonetheless."

24 A. (Reviewing document.) Okay. I'm reading it.

25 Q. Just a second.

Produced by RJRTC

HUMPHREY

1 A. Okay.

2 Q. Hang on. I think I have the wrong page. Let
3 me just skip that for now.

4 What is your recollection about why the
5 biological research division was closed? Mr. McClain asked
6 you about this. Tell us what your recollection is as to the
7 reasons why that was closed.

8 A. About 1964 we had a new Vice-President come
9 in, Doctor Willard Bright, who was interested in -- he was
10 in charge of acquisition of other companies. He was also
11 interested in acquiring pharmaceutical companies; and, in
12 fact, we -- he and I went and interviewed Parke and Davis in
13 the hope of becoming -- a merger.

14 He also thought that then we should have some
15 research directed at pharmaceuticals in-house, and there
16 were plenty of scientists available to do that kind of work.

17 He also got the idea and discussed this with
18 the Chairman of the Board, Doctor -- Mr. Gray -- we should
19 also be engaged in some animal work. One reason to have
20 animals facilities so that we could do some toxicity
21 studies, lethal dose studies, analgesic studies to help work
22 on the pharmaceutical research.

23 So we started -- I got -- I started up on
24 what they call a mouse house -- animals. We got gerbils and
25 mice and rats and hired a veterinarian to head up the

Produced by EATC

52614 7537

1 laboratory. And in so doing, he also thought it would be a
2 good idea to do some smoke inhalation research just to
3 become familiar with those techniques.

4 So that's how the thing started.

5 Q. Okay.

6 A. And, of course, the effort expanded. Then
7 all of a sudden there was -- for some -- for some reason,
8 Doctor Bright left because he did not foresee any -- I guess
9 from his standpoint, any future in the company; so he left.
10 But when he left, there was quite a change in the overall
11 management, and this management decided that we should not
12 pursue interest in the pharmaceutical business and,
13 therefore, we should not conduct any further animal
14 research.

15 So at that point, there was a complete change
16 in management, and they decided to abandon smoking/health
17 research.

18 Q. Okay. And at that point in time, was the
19 Biological Research Division also conducting work related to
20 starch?

21 A. In some --

22 MR. MCCLAIN: Objection. Objection.

23 Q. BY MS. MCDOLE: Relating to starch?

24 MR. MCCLAIN: Objection.

25 A. Relating to?

1 Q. BY MS. MCDOLE: Starch.

2 MR. MCCLAIN: It's leading.

3 Q. BY MS. MCDOLE: Was the Biological Research
4 Division conducting any research relating to starch and the
5 possible --

6 A. Oh, yes. Yes.

7 Q. What was being done there?

8 A. Well, at that time, we -- the company owned
9 Parke and Davis. No. No. The starch company out of --

10 Q. Was it Penniken Ford?

11 MR. MCCLAIN: Objection.

12 A. Penniken ford.

13 MR. MCCLAIN: Objection. It's leading.

14 Q. BY MS. MCDOLE: Okay. And so what was the
15 research that was being done at that point?

16 A. Well, finding other uses for starch.

17 Q. All right. And was Penniken Ford sold around
18 this time?

19 A. It was sold eventually.

20 Q. Okay. So what happened? Was there a need
21 for any research at that point?

22 A. We did continue some research on starch.

23 Q. Okay. And you told us that you had heard
24 some kind of a rumor about an agreement on testing. Did
25 that, to your -- was that anything other than a rumor?

produced by R. J. F. C.

HUNTER

1 A. As far as I was concerned, it was only a
2 rumor.

3 Q. Okay. Did that have anything to do with the
4 closing of the biological research?

5 A. In my opinion, absolutely nothing.

6 MR. MCCLAIN: Objection. Lacks foundation.

7 Q. BY MS. MCDOLE: Now, did the Biological
8 Research Division -- was that -- did that report to you as
9 Director of Research?

10 A. Yes, it did. Yeah, they had a Director,
11 Doctor Nielsen, and he reported directly to me.

12 Q. Okay. So would you expect that you would
13 know the reasons why it was closed?

14 MR. MCCLAIN: Object to the form of the question.
15 It calls for speculation.

16 A. Well, yes, uh-huh.

17 Q. BY MS. MCDOLE: Okay. All right. Now, you
18 were asked a lot of questions about your own involvement
19 with the council for tobacco research.

20 A. Yes, uh-huh.

21 Q. Could you tell us what your involvement was
22 -- what the nature of the involvement was?

23 A. Well, there was a Scientific Advisory Board
24 consisting of eminent scientists; and there -- the -- there
25 was -- it made known to the public that funding is available

1 to conduct smoking/health research.

2 So universities and other institutions would
3 submit a proposal, and then the Scientific Advisory Board
4 would meet and look at many proposals and -- because -- in
5 view of the funding available, we could approve only say
6 about ten (10) each year. So they would give a rating and
7 decide on the ten (10); and that would be the annual
8 approval.

9 Q. All right. In general, what was the nature
10 of the kind of research projects that would be approved?

11 A. Well --

12 Q. Were they somehow related to smoking or
13 cigarettes?

14 A. It was definitely related -- all related to
15 smoking and health.

16 Q. Now, what did you personally do in connection
17 with the Council for Tobacco Research? What was your
18 specific role?

19 A. My function was attend the meeting. And then
20 most of the scientists on the Scientific Advisory Board were
21 biological medical people that were not too familiar with
22 tobacco technology, and they would ask me "Now, is this
23 particular proposal" -- would this facility, for example,
24 have the kind of equipment that would be needed to conduct
25 this kind of research -- smoking machines and anything

1 involving smoking. And that is -- that -- tobacco
2 technology.

3 Q. Okay. Did you work on some particular
4 committee that advised the Scientific Advisory Board?

5 A. There was a technical committee which met --
6 which met once a year.

7 Q. Okay.

8 A. But I attended a meeting every month.

9 Q. Of the Scientific Advisory Board?

10 A. Yes, uh-huh.

11 Q. And were you also a member of the technical
12 committee?

13 A. Yes, I was.

14 Q. Okay. And how long, Doctor Senkus, did you
15 participate in this way with --

16 A. Well, it must have been about ten (10) years.

17 Q. Could you tell us what years these were?

18 A. Well, I think I probably terminated about
19 1977 -- '78.

20 Q. Okay.

21 A. It must have been from about '65 to '77.

22 Q. All right. And explain to us the process by
23 which the Scientific Advisory Board would approve the
24 projects.

25 A. Well, each -- there would be proposal -- a

Produced by RJRTC

UNPUBLISHED

1 copy of a proposal for every member of S.A.B.

2 Q. That's the Scientific Advisory Board?

3 A. Yeah. And they would -- each member would
4 give it a rating -- one, two, three, four, five, six, eight,
5 nine, ten -- whatever; and then they would look at the
6 numbers and, based on these numbers, come up with a
7 decision.

8 Q. Okay. And did you believe ---

9 Or what was your belief as to how that
10 process was conducted?

11 MR. MCCLAIN: Object to the form of the question.
12 It's vague and ambiguous.

13 A. It was conducted in what they call a
14 professional manner.

15 Q. BY MS. MCDOLE: Why do you say that?

16 A. Because of the qualifications and the
17 standing of the members of the S.A.B. and the scientific
18 medical community.

19 Q. And in the process of deciding whether or not
20 to fund certain projects -- whether to choose certain
21 projects -- was there anything appropriate -- inappropriate
22 or improper discussed, in your opinion?

23 A. No, huh-uh.

24 Q. And were the discussions about choosing the
25 projects -- did they take place in your presence?

Produced by RJETC

52614 7543

1 A. Well, each --

2 MR. MCCLAIN: Object to the form of the question.

3 A. Each project would be announced. People
4 would have studied the project, and there would be comments
5 made about it; but the eventual vote was done independently.

6 Q. BY MS. MCDOLE: Okay. And did you believe --
7 to the extent that you were there, did you believe that
8 there was anything improper in any of those discussions
9 relating to the projects?

10 A. As a matter of fact, I had the complete list
11 of projects I used for that; so I examined them. So I was
12 able to comment in my opinion as to the -- if they asked a
13 question, I would be able to answer it on a technical basis
14 for the report.

15 Q. And did you generally agree with the board's
16 decisions about what projects to fund?

17 A. Well, I think -- I never had to question
18 whether to agree or disagree.

19 Q. Okay. Did you ever feel that they picked the
20 wrong projects?

21 A. No.

22 MR. MCCLAIN: Object to the form of the question
23 -- about how he felt.

24 Q. BY MS. MCDOLE: Did you ever feel that they
25 picked the wrong projects?

1 A. No. I had no opinion on that.

2 Q. Okay. Now Mr. McClain had asked you in
3 connection with that Exhibit 13 some questions about
4 nicotine's effect on the cardiovascular system and on the
5 circulation, and you said that it was in the literature that
6 smoking has an effect on the cardiovascular system and it
7 was in the literature that smoking has an effect on
8 circulation. Do you remember that testimony?

9 A. Yes, uh-huh.

10 Q. When you were talking about the literature,
11 what literature were you referring to?

12 A. Well, even in 19-- and long before that --
13 there's plenty of -- many reports commenting on the effect
14 of smoking on the circulatory system.

15 Q. Okay. Can you give us the time frame? You
16 started to say "even in 19--", and then you didn't finish.

17 A. '51.

18 Q. In '51?

19 A. When I first came -- I read about that when I
20 came on board.

21 Q. Okay. On the effect of smoking on the
22 cardiovascular system and on the circulatory system?

23 A. The same thing, I guess.

24 MS. MCDOLE: Okay. Thank you. I have no more
25 questions.

Produced by RPTC

52614 7545

1 MR. AVRAM: Excuse me. Do you have some redirect?
2 Let's take a time-out for a pit stop.

3 (Off the record)

4 (Brief recess: 2:32 p.m. to 2:35 p.m.)

5 (Back on the record)

6
7 EXAMINATION

8 BY MR. MCCLAIN:

9 Q. Doctor Senkus, I just have a few follow-up
10 questions in response to the questions that were asked by
11 Reynolds' lawyer.

12 She asked you about that Academy of Sciences
13 meeting way back in 1960.

14 A. Uh-huh.

15 Q. Do you remember her questions about that?

16 A. Yes.

17 Q. And she asked you whether it was an open
18 meeting. Do you remember that?

19 A. Yes.

20 Q. Do you remember a young black fellow by the
21 name of Burton wondering around there anywhere in that
22 meeting?

23 A. No, I don't.

24 Q. He would have been wearing blue jeans at the
25 time. Do you remember him?

Produced by ERTC

1 A. No, I don't.

2 Q. Yeah. Did you have the observation that
3 laypeople were in attendance at that meeting?

4 A. No.

5 Q. When you came back in 1960 with this
6 information that you gleaned from this scientific
7 conference, did Reynolds put warnings on the packs of its
8 cigarettes that warned people that nicotine could have
9 detrimental effects on the circulatory system? Were those
10 placed there?

11 A. Not that I can recall.

12 Q. She asked you some questions about a safer
13 cigarette project that Doctor Gory was involved in. Do you
14 remember those questions?

15 A. You'll have to refresh my memory.

16 Q. Do you remember she asked you about Doctor
17 Gory?

18 A. Yes. Yes.

19 (Deposition Exhibit 28 was marked for
20 identification.)

21
22 PRIVILEGED MATERIAL REDACTED
23
24

25 MS. MCDOLE: Hang on. Has this been ruled not

1 privileged?

2 MR. MCCLAIN: Right.

3 MS. MCDOLE: When?

4 MR. MCCLAIN: It's part of the privileged --

5 MS. MCDOLE: We're going to have to check that.

6 MR. MCCLAIN: Okay. Fine.

7 MS. MCDOLE: Okay. We still assert that the
8 document is privileged.

9 MR. MCCLAIN: Some people assert that the world is
10 flat.

11
12
13
14
15
16
17
18 PRIVILEGED MATERIAL REDACTED
19
20
21
22
23
24
25

Produced by RJE-TC

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

52614 7549

1 Q. Now let's talk about nicotine in Marlboros,
2 if we can, for a minute and the role of advertising. It's
3 the cowboys, is it, and the horses?

4 A. Yeah.

5 Q. Weren't Winstons advertised the exact same
6 way?

7 A. You mean -- I don't think. Not that I
8 recall. The early advertisements, of course, was a jingle.

9 Q. Don't you remember advertisements of Winston
10 cowboys and Winston --

11 A. No, I don't remember that.

12 Q. -- Western scenes?

13 You don't remember that?

14 A. No. No. Now if there was any, it would have
15 come after I left the company, I think -- maybe before, but
16 I don't --

17 Q. But you don't remember those?

18 A. No, I don't.

19 Q. All right. Now, as I understand your
20 testimony in regard to why you stopped biological research,
21 it was because you decided not to buy Parke Davis? Is that
22 the company?

23 A. No. No. No. It had nothing to do with
24 that. It was -- the management at that time was not
25 interested in diversifying into the pharmaceutical business

Produced by ETRC

HUMPHREY

52614 7550

1 at all -- not just Parke and Davis. Parke and Davis just
2 happened to be one of the companies we visited, but
3 we --

4 Q. But the biological research you were doing
5 related to cigarettes, didn't it?

6 A. That was peripheral. In other words, when --
7 we -- there were many compounds we isolated which had
8 analgesic properties, which had other pharmacological
9 properties; but then we would test for toxicity, and it
10 would be much too toxic so we wouldn't consider them
11 further.

12 Q. But the testing you were doing related to
13 cigarettes, didn't it?

14 MS. MCDOLE: Objection. Mischaracterization.

15 A. Well, no. In this particular case, we were
16 testing for pharmaceutical use only.

17 Q. BY MR. MCCLAIN: The biological research you
18 were doing at Reynolds in 1970 --

19 A. Yes.

20 Q. -- related to smoke constituents and their
21 properties on humans and other animals. Am I right?

22 MS. MCDOLE: Objection. Mischaracterization. No
23 foundation.

24 Q. BY MR. MCCLAIN: Wasn't that being done at
25 the time?

Produced by RJC/TTC

52614 7551

1 A. Restate that question again so I understand
2 it.

3 Q. Yes. Wasn't Reynolds doing work regarding
4 the components of cigarette smoke and their effects on
5 beings -- humans or otherwise?

6 MS. MCDOLE: Objection to the form of the
7 question. Objection to the mischaracterization.

8 A. No. I mean, as I remember the work we did,
9 we did some inhalation work on animals. That essentially --
10 and we did test some compound -- effect of certain
11 constituent of smoke on the animals, and there were some
12 preliminary results.

13 Q. BY MR. MCCLAIN: Yes, that work was done?

14 A. That work was done.

15 Q. And even after you stopped considering buying
16 Parke Davis, you still continued to manufacture cigarettes.
17 Am I right?

18 A. No. No. No. Now when -- let's not, shall
19 we say, confine it to Parke and Davis. We were -- would
20 have been interested in buying any pharmaceutical company in
21 which there was a mutual interest.

22 Q. Leave Parke and Davis to the side.

23 A. Yeah. That's right.

24 Q. Once you stopped considering buying any
25 pharmaceutical company, you still were in the business of

produced by RJRTC

52614 7552

1 manufacturing cigarettes. Am I right?

2 A. Oh, yes. Yes.

3 Q. And the inhalation experiments that you had
4 done previously related to those cigarette sales. Am I
5 correct?

6 A. We were new at smoke inhalation studies. We
7 were -- as far as I was concerned, we were just getting our
8 feet wet in the study.

9 Q. Right. And those -- but those ---
10 That biological work you did related to
11 smoking, didn't it?

12 A. The effect of smoke in animals. Yes, it did.

13 Q. All right. Now, you're not at all contending
14 that the reason why the other companies stopped doing
15 biological research was because you didn't want to buy a
16 chemical company or a drug company any longer. Am I right?

17 MS. MCDOLE: Objection. No foundation that he
18 knows anything about what the other companies were doing.

19 Q. BY MR. MCCLAIN: Well, let me restate it to
20 you. Is it your contention that the reason why the other
21 companies stopped doing biological research was because
22 Reynolds decided not to buy a drug company?

23 MS. MCDOLE: Objection. No foundation that Doctor
24 Senkus knows what the other companies were doing in
25 research.

produced by RJC/TTC

52614 7553

1 A. Well, I'm not -- I don't know what the other
2 tobacco companies are doing. They may have been conducting
3 biological research.

4 Q. BY MR. MCCLAIN: You understood based upon
5 the rumor in the industry that they were not. Am I right?

6 MS. MCDOLE: Objection. Mischaracterization.

7 A. There was a rumor, yes; but there was also
8 rumor that they were.

9 Q. BY MR. MCCLAIN: Okay. Now you talked about
10 the Scientific Advisory Board screening procedure and --

11 A. Yeah, uh-huh.

12 Q. -- submission.

13 A. Yes.

14 Q. But I showed you documents today about lawyer
15 involvement in these matters that you were not aware of. Am
16 I right?

17 A. That's right, uh-huh.

18 Q. So to the extent that lawyers were involved
19 in this process, you weren't aware of it?

20 A. I was not.

21 Q. There were certain projects that were not
22 funded by C.T.R. like Doctor Homburger and his work on
23 hamsters and mice. Am I right?

24 MS. MCDOLE: Objection.

25 A. I don't know about that. I don't know

Produced by R. J. T. C.

52614 7554

1 specifically whether or not that came under purview of the
2 S.A.B. -- the Homburger proposal.

3 Q. BY MR. MCCLAIN: What about Doctor Arbach and
4 his dogs?

5 A. Uh-huh.

6 Q. They ceased funding those, didn't they?

7 A. Actually, I'm not sure that Arbach was funded
8 by the industry. I think it was funded by the National
9 Cancer Institute.

10 Q. And the industry tried to get his funding cut
11 off. Am I right?

12 MS. MCDOLE: Objection to the form.

13 A. I don't see how any -- how industry could
14 have cut him off. There was no -- the industry had no,
15 shall we say, authority or capability of cutting off his
16 funding.

17 Q. BY MR. MCCLAIN: Doctor, you're not
18 contending that the American cigarette industry has no
19 impact on decisions of our government. Am I right?

20 MS. MCDOLE: Objection to the form.

21 Q. BY MR. MCCLAIN: You're not testifying to
22 that?

23 A. No, I'm not. I don't know. I don't know.

24 Q. And then I want to find one last document and
25 we'll be done.

Produced by RFFC

52614 7555

1 Now the other thing -- you talked about the
2 numbers of published reports that C.T.R. made over the
3 years?

4 A. Uh-huh.

5 Q. Would you read into the record the comment of
6 the National Cancer -- I mean -- I'm sorry. Let me start
7 again.

8 Would you read into the record the comment of
9 the American Cancer Society about the studies that C.T.R.
10 had published?

11 A. Are you talking about this last paragraph?

12 Q. The -- beginning with 2.

13 MS. MCDOLE: Just a minute. What exhibit are we
14 on?

15 MR. MCCLAIN: I don't know what number.

16 MS. MCDOLE: Hang on. Before you read anything,
17 Doctor Senkus, what exhibit are we talking about?

18 Q. BY MR. MCCLAIN: What's the number, Doctor
19 Senkus? 7?

20 A. 18.

21 MS. MCDOLE: Okay.

22 MR. AVRAM: 18.

23 MS. MCDOLE: Just a minute. Let me get it.

24 A. "You speak proudly" --

25 MS. MCDOLE: Wait. Wait. What page are you --

Produced by RINTC

UNRECORDED

1 MR. MCCLAIN: First.

2 MS. MCDOLE: First page. Where?

3 MR. MCCLAIN: 2.

4 MS. MCDOLE: Item 2?

5 Q. BY MR. MCCLAIN: Go ahead and read that,
6 Doctor Senkus.

7 A. "You speak proudly of the 1115 reports
8 published as a result of tobacco industry research and say
9 they are" -- in quotes -- "'available to scientists and
10 doctors interested in pursuing the scientific truths on
11 smoking and health issue,'" close quotes. "Does any one of
12 these reports indicate that cigarette smoking is safe? Of
13 course not."

14 Q. That's his comment. You tell me. Did any of
15 them prove that smoking was safe?

16 A. To my knowledge, no.

17 MR. MCCLAIN: Thank you. No further questions.

18

19

EXAMINATION

20 BY MS. MCDOLE:

21

22

23

PRIVILEGED MATERIAL REDACTED

24

25

Produced by REXTC

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

Q. Was the majority of the work related to the potential of getting into the pharmaceutical business?

22

23

MR. MCCLAIN: Object to the form of the question. It's leading.

24

25

A. In my opinion, it was, because I came from

1 the pharmaceutical industry before I came to Reynolds.

2 Q. BY MS. MCDOLE: Okay. And you were ---

3 And the Biological Research Division reported
4 to you, correct?

5 A. Yes, uh-huh.

6 MS. MCDOLE: Thank you.

7

8

EXAMINATION

9 BY MR. MCCLAIN:

10 Q. You came in 1951, didn't you?

11 A. Yes.

12 Q. The biological research was stopped in what
13 year?

14 A. In 1970. It started in '68, stopped in '70.

15 Q. All right. So it ---

16 The work that you did didn't relate to your
17 previous employment in the pharmaceutical industry --

18 A. Except my interest in pharmaceutical work. I
19 have made compounds which are in the Merc Index when I
20 was with a former company, so I had a keen interest in
21 pharmaceutical work.

22 Q. Yes.

23 A. And, in fact, at one point, we had serious
24 negotiations with Warner Lambert back in 1960 or -- 1960.

25 Q. In 1960?

Produced by PRTC

EXHIBIT

1 A. Yeah.

2 Q. You didn't do any of the biological research
3 then, did you?

4 A. No. We were not -- didn't have the
5 capability.

6 MR. MCCLAIN: Thanks. No further questions.

7 (Witness excused at 2:53 p.m.)

8

9 (FURTHER DEPONENT SAITH NOT.)

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

CERTIFICATION

STATE OF NORTH CAROLINA

COUNTY OF FORSYTH

I, PATRICIA REID, NOTARY PUBLIC AND COURT REPORTER
IN AND FOR THE COUNTY OF FORSYTH, STATE OF NORTH
CAROLINA, HEREBY CERTIFY:

THAT ON THE 26TH DAY OF JULY, 2001, THERE APPEARED
BEFORE ME THE FOREGOING WITNESS, MURRAY SENKUS,

THAT THE SAID DEPOSITION WAS THEN TAKEN AT THE TIME
AND PLACE HEREIN MENTIONED;

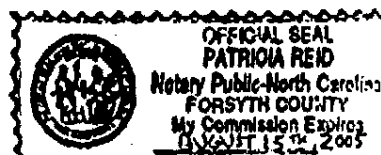
THAT THE TESTIMONY WAS TAKEN BY ME AND RECORDED BY
STENOMASK AND THEREAFTER TRANSCRIBED UNDER MY
SUPERVISION, AND THE FOREGOING PAGES ARE A COMPLETE AND
ACCURATE RECORD OF ALL THE TESTIMONY GIVEN BY SAID
WITNESS;

THAT THE UNDERSIGNED, PATRICIA REID, IS NOT OF KIN
OR IN ANY WAY ASSOCIATED WITH ANY OF THE PARTIES TO SAID
CAUSE OF ACTION OR THEIR COUNSEL, AND THAT I AM NOT
INTERESTED IN THE EVENT THEREOF.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND
SEAL THIS THE 6th DAY OF AUGUST, 2001.

Patricia Reid
PATRICIA REID
COURT REPORTER

MY COMMISSION EXPIRES:
AUGUST 15, 2005



EINSTEIN & ASSOCIATES, INC., 2888 NATIONWIDE DRIVE
WINSTON-SALEM, NORTH CAROLINA 27106 (336) 761-1874

52614 7561

CERTIFICATE OF CERTIFIED COPY

I, Rebecca Thomas-Coleman, an employee of
Atkinson-Baker, Inc., Court Reporters,
certify that the foregoing pages 1 through 214,
constitute a true and correct copy of the original
deposition of MURRAY SENKUS, Ph.D. taken on
JULY 26, 2001.

I declare under penalty of perjury under the
laws of the State of California that the foregoing
is true and correct.

Dated this 13TH day of AUGUST, 2001.

Rebecca Thomas-Coleman

REBECCA THOMAS-COLEMAN

WITNESS CERTIFICATION

I, MURRAY SENKUS, PH.D., DO HEREBY CERTIFY:

THAT I HAVE READ AND EXAMINED THE CONTENTS OF THE FOREGOING RECORD OF TESTIMONY AS GIVEN BY ME AT THE TIME AND PLACE HEREIN AFOREMENTIONED;

AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING TRANSCRIPT IS A COMPLETE AND ACCURATE RECORD OF ALL THE TESTIMONY GIVEN BY ME AT SAID TIME, WITH THE FOLLOWING EXCEPTIONS (IF ANY):

PAGE _____ LINE _____ SHOULD READ _____

PAGE _____ LINE _____ SHOULD READ _____

PAGE _____ LINE _____ SHOULD READ _____

PAGE _____ LINE _____ SHOULD READ _____

MURRAY SENKUS, PH.D.

I, _____, NOTARY PUBLIC FOR
THE COUNTY OF _____, STATE OF _____,
DO HEREBY CERTIFY:

THAT MURRAY SENKUS PERSONALLY APPEARED BEFORE ME
THIS THE _____ DAY OF _____, 2001;

AND THAT I PERSONALLY WITNESSED THE EXECUTION OF
THIS DOCUMENT FOR THE INTENTS AND PURPOSES HEREINABOVE
DESCRIBED.

NOTARY PUBLIC

MY COMMISSION EXPIRES:

produced by RRTC

L

HUMPHREY

in

produced by RJRTC

A Frank Statement to Cigarette Smokers

DEPOSITION
EXHIBIT

EXHIBIT

12-4-98 *Rohman*

Produced by RJRT

RECENT REPORTS on experiments with mice have given wide publicity to a theory that cigarette smoking is in some way linked with lung cancer in human beings.

Although conducted by doctors of professional standing, these experiments are not regarded as conclusive in the field of cancer research. However, we do not believe that any serious medical research, even though its results are inconclusive should be disregarded or lightly dismissed.

At the same time, we feel it is in the public interest to call attention to the fact that eminent doctors and research scientists have publicly questioned the claimed significance of these experiments.

Distinguished authorities point out:

1. That medical research of recent years indicates many possible causes of lung cancer.
2. That there is no agreement among the authorities regarding what the cause is.
3. That there is no proof that cigarette smoking is one of the causes.

4. That statistics purporting to link cigarette smoking with the disease could apply with equal force to any one of many other aspects of modern life. Indeed the validity of the statistics themselves is questioned by numerous scientists.

We accept an interest in people's health as a basic responsibility, paramount to any other consideration in our business. We believe the products we make are not injurious to health.

We always have and always will cooperate closely with those whose task it is to safeguard the public health.

For more than 300 years tobacco has given solace, relaxation, and enjoyment to mankind. At one time or another during those years critics have held it responsible for practically every disease of the human body. One by one these charges have been abandoned for lack of evidence.

Regardless of the record of the past, the fact that cigarette smoking today should even be suspected as a cause of a serious disease is a matter of deep concern to us.

Many people have asked us what we are doing to meet the public's concern aroused by the recent reports. Here is the answer:

1. We are pledging aid and assistance to the research effort into all phases of tobacco use and health. This joint financial aid will of course be in addition to what is already being contributed by individual companies.
2. For this purpose we are establishing a joint industry group consisting initially of the undersigned. This group will be known as TOBACCO INDUSTRY RESEARCH COMMITTEE.
3. In charge of the research activities of the Committee will be a scientist of unimpeachable integrity and national reputation. In addition there will be an Advisory Board of scientists distinguished in the cigarette industry. A group of distinguished men from medicine, science, and education will be invited to serve on this Board. These scientists will advise the Committee on its research activities.

This statement is being issued because we believe the people are entitled to know where we stand on this matter and what we intend to do about it.

TOBACCO INDUSTRY RESEARCH COMMITTEE

3401 EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

SPONSORS:

THE AMERICAN TOBACCO COMPANY, INC. <i>Paul M. Hecht, President</i>	SMURLEY TOBACCO SHEDS COOPERATIVE ASSOCIATION <i>John W. Jones, President</i>	FIELDT TUBES & CO., LTD., INC. <i>G. Parker McCann, President</i>
BIXON & WEDGES <i>Joseph F. Collins, Jr., President</i>	LARSEN & SONS COMPANY, INC. <i>W. T. Roschke, President</i>	R. J. REYNOLDS TOBACCO COMPANY <i>E. A. Dunn, President</i>
BRIGHT BELL WAREHOUSE ASSOCIATION <i>F. E. Kasper, President</i>	E. LORLAND COMPANY <i>Robert A. Ford, Chairman</i>	BYERLAND BROTHERS, INC. <i>C. E. Byerland, D.D.S., Director of Research</i>
BROWN & WILLIAMSON TOBACCO CORPORATION <i>Timothy W. Hornett, President</i>	MARYLAND TOBACCO SHEDS ASSOCIATION <i>Edward C. Lyons, District Manager</i>	TOBACCO ASSOCIATES, INC. <i>The corporation of persons whose names are listed below</i> <i>J. E. Nathan, President</i>
SMURLEY AUCTION WAREHOUSE ASSOCIATION <i>Albert Clay, President</i>		UNITED STATES TOBACCO COMPANY <i>E. W. Freeman, President</i>

Exhibit A

52614 7565

2

HUMPHREY

in

produced by RJRT

Author: Murray Senkus
Division: Chemical Research
RIM, 1960, No. 29

April 4, 1960
Notebook Pages: None
Previous Reports: None

CONFERENCE ON CARDIOVASCULAR EFFECTS
OF NICOTINE AND SMOKING

The writer attended the Conference on Cardiovascular Effects of Nicotine and Smoking in New York City, March 24-26, 1960. Arrangements for the Conference were made by the Section of Biological and Medical Sciences of the New York Academy of Sciences. Most of the work which reported at the meeting was supported by funds from the Tobacco Industry Research Committee. The papers which were presented and the discussions will be compiled in a monograph which is to be published by the Academy in two or three months.

A. ATTENDANCE

Approximately 160 people attended the meeting. Of the industrial research laboratories of the tobacco companies, Philip Morris had two representatives, Liggett & Myers had one, U. S. Tobacco Company had one, and R. J. Reynolds Tobacco Company had two. The American Tobacco Company was in essence represented by several members of the staff of the Medical College of Virginia in Richmond. It was noted that the Director of Basic Sciences of the Warner Lambert Research Institute attended the meeting. Many of those in attendance were from medical centers who either presented papers (approximately 33 papers were presented) or were listed as co-authors (large number of co-authors - 47).

B. CATEGORIES OF PAPERS

The Conference consisted of six sessions and two panel discussions. The first session dealt with the biogenesis of nicotine, its chemical properties, and fate on smoking. The other five sessions dealt with specific effects of nicotine and smoking on the cardiovascular system. The material presented at five of the sessions is discussed briefly below.

1. Biochemistry and Chemistry of Nicotine

Dr. R. F. Deussen, of Columbia University, discussed the biogenesis of nicotine and related alkaloids. Most of the material presented has been published.

Dr. Paul S. Larson, of the Medical College of Virginia, discussed the fate of nicotine during smoking. He reviewed the data on retention of nicotine from the mainstream of cigarette smoke. Thus 10 percent of the nicotine in the smoke is retained when the cigarette is puffed without inhalation and 90 percent when puffed with inhalation.

RJRT/TEXAS AG



50060-0108

52614 7567

148

The effect of pH on absorption of nicotine through various membranes was discussed by Dr. Janet Travell, of the Cornell University Medical College. At an acid pH of 5.0 or less, nicotine is very slowly absorbed through gastric and urinary membranes whereas at pH of 6.0 and higher absorption is rapid.

The above data are not new. However, they are worthy of attention particularly in the light of other data which were discussed at the Conference. Thus, in a panel which considered changes induced by smoking, Dr. Frank W. Davis, Jr., of the Johns Hopkins University School of Medicine discussed the relationship between the amount of absorbed nicotine and responses to a ballistocardiograph in cardiac patients. Tests included smokers and non-smokers, inhalers and non-inhalers, low nicotine and high nicotine tobaccos, and filtered and regular cigarettes. The ballistocardiographs were the same in all cases. It is evident, therefore, that the threshold amount of absorbed nicotine which triggers the responses in cardiac patients is very low, probably on the order of 0.05 mg. as in the case of a non-inhaler (10 percent retention) smoking a high filtration cigarette manufactured from low nicotine tobaccos (0.5 mg. nicotine in smoke of one cigarette).

II. Effect of Smoking on the Heart

It has been recognized for some time that nicotine disturbs the rhythm of the heart. It was generally agreed at the Conference that the disturbance is attributable to the discharge of adrenalin into the blood. This discharge is believed to be caused by nicotine. Release of adrenalin is also caused by other factors, as for example emotional stress.

III. Effect of Smoking on Blood Circulation in the Skin

It was agreed that smoking decreases the flow of blood in the skin. This effect is slight and in most individuals should not be troublesome. A specific case where this effect may be harmful would be smoking by a cardiac patient at low temperatures. The effects of cold and of smoking on circulation are cumulative. It was believed, therefore, that the effect should be avoided.

IV. Effect of Smoking on Coronary Circulation

The adverse effects of smoking on circulation in cardiac patients reported to be increases in pulse rate, blood pressure, blood flow, and cardiac work. These effects are either absent or of minor nature in non-cardiac individuals. The increased work of the heart and the resulting strain, anginal pain in some individuals. It was considered likely that nicotine disturbs the oxygen utilization in the blood which in turn produces many of the adverse effects.

V. Nicotine Poisoning

There was general agreement that nicotine is harmless when administered

RJRT/TEXAS AG

to animals in subconvulsive doses. A single subconvulsive dose in an average man is 3-6 mg. This level is never achieved in normal usage of tobacco. The highest absorption of nicotine would be associated with chewing of tobacco, the estimated maximum being 88 mg. per day. Since nicotine is metabolized and/or excreted rapidly, it would be highly unlikely that a convulsive level would ever be attained.

Murray Senkus
Murray Senkus

Distribution:

Mr. Kenneth H. Hoover
Mr. E. H. Harwood
Dr. Murray Senkus
Library (2)

First Draft Submitted: April 4, 1960

Completed: April 4, 1960
From manuscript:jb

Approved:

50060 0104

NJRT/TEXAS AG

52614 7569

3

HUMPHREY

in

produced by R.P.T.C.

RJR 0003013

- D R A E I -

September 19, 1969

Mr. Edward A. Vassallo
Dr. Murray Senkus

PROPOSAL OF A NEW, CONSUMER-ORIENTED BUSINESS
STRATEGY FOR RJR TOBACCO COMPANY

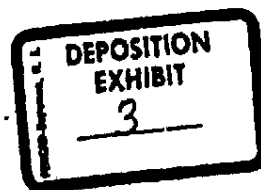
Based Upon

An Analysis of the Effects of the Smoking-Health
Controversy and the "Safer" Cigarette Strategy
On Consumer Behavior

Produced by RJR TC

in

HUMPHIREX



50510 1949

52614 7571

476

TABLE OF CONTENTS

	Page
A. OBJECT	4
B. SUMMARY	4
C. THE PROBLEM: THE SMOKING-HEALTH CONTROVERSY AND ITS IMPACT ON CONSUMER BEHAVIOR AND THE TOBACCO INDUSTRY	5
I. A Generalized, Simplistic Equation for Describing Consumer Behavior and the Market for Cigarettes	5
a. The Basic Equation	5
b. The Basic Equation Applied to the Pre-Smoker	6
c. Numbers of Smokers Preferring Each Given Type of Cigarette - Share of Market	7
d. Summary	7
II. The Anti-Tobacco Allegations: Effects on Consumer Behavior	8
III. The Response by the Tobacco Industry: The "Safer" Cigarette Strategy	8
a. The Strategy	8
b. Effects of the "Safer" Cigarette Strategy	9
c. Long-Term Implications of "Safer" Cigarette Strategy	9
D. A NEW PRODUCT STRATEGY FOR CIRCUVENTING DIFFICULTIES ARTISING FROM THE SMOKING-HEALTH CONTROVERSY	10
I. The Proposed New Strategy	10
II. The New Strategy and the Generalized Equation	11
a. Habituation Factor (H)	11
b. Gratification Factor (G)	11
c. Cost Factor (C)	11
d. Regulatory Factor (R)	11
e. Summary of Effects - Implications	11

50510 1950

52614 7572

produced by RJRTD

in

HUMANITARIAN

TABLE OF CONTENTS (CONT'D.)

	<u>Page</u>
E. VALIDATION AND IMPLEMENTATION OF THE NEW STRATEGY	12
I. Formation of a Project Group	12
II. Evaluation of the Role and Use of Nicotine (N)	12
III. Identification of Gratifications Desired or Expected	14
IV. Identification of Constraints	15
V. Validation of New Strategy; Definition of Practical New Product Specifications	16
VI. From New Product Specifications to New Products	16
F. PRELIMINARY ACTIVITY AND PROGRESS	16
I. A Transitional Cigarette-Like Device	16
II. Transitional - No Tobacco	17
III. Atavistic	17
IV. Other	18
G. CONCLUSIONS AND RECOMMENDATIONS	18
ACKNOWLEDGMENTS	20

50510 1951

52614 7573

A. OBJECT

The object of this discussion is to analyze the effects of the smoking-health controversy on consumer behavior, to evaluate the short- and long-term implications of the tobacco industry's "safer"-cigarette strategy, and to propose a new, consumer-oriented strategy for resolution of the smoking-health problem.

B. SUMMARY

A basic, simplistic equation relating the propensity of an individual to smoke (P), to a nicotine habituation factor (H), a gratification factor (G), a cost factor (C), and a government regulatory factor (R), is:

$$P = (H + G) - (C + R)$$

Using this equation, the effects of the smoking-health controversy on consumer behavior are analyzed.

Using the same approach, the effects of the present "safer" cigarette strategy on consumer behavior are analyzed. Based on this analysis, the "safer" cigarette strategy is prudent and valid for the short term, but may possibly lead to unsatisfying long-term results for both the consumer and the tobacco industry. The "safer" cigarette strategy is based on the assumption that a product will eventually be found which satisfies the consumer on the one hand, and on the other is permanently acceptable to the consumer and anti-tobacco forces in terms of health hazard. This desired equilibrium is not likely to be reached if the above equation is true and if history is to be believed. Thus an alternate strategy becomes desirable.

A new business strategy is proposed. In simplistic terms, the proposed new strategy should be to define the satisfactions expected or derived from cigarette smoking and to devise and market profitable new products - away from conventional cigarettes - which will provide those same satisfactions with no significant hazard to the health of the user. For the purposes of this discussion, nicotine is considered to be a *sine qua non* in smoking satisfaction, and ingestion of minimal amounts is not considered to be hazardous to health.

The proposed new strategy is analyzed, using the basic equation, and found to be theoretically attractive. A plan for validation, and, if appropriate, implementation of the proposed new strategy is outlined.

Preliminary laboratory and concept studies indicate that the proposed new products are technically feasible.

50510 1952

52614 7574

5

Formation of a project group for consideration, validation, and, if appropriate, planning and execution of the proposed new strategy is recommended.

C. THE PROBLEM: THE SMOKING-HEALTH CONTROVERSY AND ITS IMPACT ON CONSUMER BEHAVIOR AND THE TOBACCO INDUSTRY

Before proposing new solutions to the problem besetting the tobacco industry as a result of the smoking-health controversy, it will be useful to define the basic problem as precisely as possible. It will also be useful to consider the present strategy of the tobacco industry for coping with the problem, and the short- and long-term implications of that strategy.

In the smoking-health controversy the visible, bruising conflict occurs between the tobacco industry and the anti-tobacco forces. In the heat of doing battle with our adversaries, we sometimes may forget that the present or potential smoker — sitting rather passively on the sidelines, judging the contest, and altering his smoking behavior accordingly — is the object of the game.

If consumer behavior is really the name of the game, any analysis of the smoking-health problem and any strategy for its solution by the tobacco industry must be primarily consumer-oriented, rather than oriented toward our antagonists. Accordingly, the present discussion is largely from that point of view and begins with a simplistic analysis of factors influencing the propensity of individuals to smoke.

1. A Generalized, Simplistic Equation for Describing Consumer Behavior and the Market for Cigarettes

The simplistic equations presented below have been developed, primarily as tools for use in the remainder of this discussion, to describe and relate various positive and negative factors in smoking to consumer behavior and markets for cigarettes.

A. The Basic Equation

The following general equation relates propensity to smoke cigarettes to the positive and negative factors involved in smoking:

$$P = (H + G) - (C + R)$$

where:

P is the propensity (inclination, freedom, desire) of a given individual to smoke cigarettes.

H is the physiological habituation factor, assumed to be nicotine.

G is all other gratifications — physical, emotional, social, ego, etc., — positive or negative, expected or derived from smoking cigarettes

50310 1953

52614 7575

C is the cost of cigarettes, and

R is (government) regulation of the marketing of cigarettes.

This equation indicates that each individual in a given population will have his own propensity to smoke, P. He will smoke that type of cigarette which most closely matches his P value, i.e., at high values conventional cigarettes, at low values "hi-fi" cigarettes, and at zero or lower values he will not smoke.

An individual's propensity (P) to smoke is seen to be determined by a variety of factors, positive and negative. The positive factors which have traditionally led to high values of P have been the physiological habituation (nicotine) factor, H; and G, all other gratifications — physical, emotional, social, etc. — expected or derived from smoking relatively high nicotine, high flavor cigarettes. The habituation factor, H, is believed to be relatively constant and large for confirmed smokers. The gratification factor, G, in the past was strongly positive but now may vary widely in value depending upon the needs of the smoker, his habit patterns, his like or dislike for a given flavor or level of flavor, health anxiety associated with smoking, social attitudes toward smoking, and the like. The smoking-health controversy results in a net decrease in the value of the gratification factor, G, for many smokers, and in the extreme case this factor may assume zero or even negative values.

The normally negative factors in the equation are cost of cigarettes, C, and government regulations on marketing of cigarettes, R. All other things being equal, as they seldom are, any increase in the cost of cigarettes would decrease the individual's propensity, P, to smoke, and might eliminate any propensity to smoke any cigarette. Government regulations on marketing of a given type of cigarette, or all types of cigarettes, might be severe enough to eliminate the possibility of a smoker obtaining any or all types of cigarettes. The smoking-health controversy has led, directly or indirectly, to increase in cost of cigarettes and increasing government regulation of sale of cigarettes, thus reducing all P values to some degree.

b. The Basic Equation Applied to the Pre-Smoker

For the potential smoker, here defined as a person, usually young, who has never been a confirmed smoker, no habituation factor exists, $H=0$, and the basic equation becomes:

$$P = G - (C + R)$$

That is to say, the propensity of a pre-smoker to begin to smoke cigarettes is largely determined, on the positive side, by the gratifications he expects to receive. These are largely social and emotional gratifications which may be completely offset by health anxieties and changes in the social acceptability of smoking.

50510 1954

52614 7576

With the habituation factor, H, eliminated from the equation we see that the propensity for a pre-smoker to smoke cigarettes may be quite different from that of a habituated smoker and that, with currently reduced gratification factors, the propensity of pre-smokers to begin to smoke at all is substantially reduced from past years.

c. Numbers of Smokers Preferring Each
Given Type of Cigarette - Share of Market

If the basic equation

$$P = (H + C) - (C + R)$$

is valid, then for each smoker or pre-smoker there should be a given cigarette type which most closely matches his P value. That is, that individual would choose to smoke, or to start to smoke, a given type of cigarette. Then, in a given population, the number of smokers or pre-smokers choosing to smoke a given type of cigarette would be the sum of the individuals in the population with P values matching that type of cigarette. The high P group would choose conventional cigarettes, the low P group would choose high filtration cigarettes, and of course those with zero values of P would not smoke at all.

It follows then, that the number of smokers in a given population - relating to size of total market - is a function of the sum of the positive P values found in that population.

d. Summary

One could go on and on with more precise and more specific equations describing the propensity of individuals to smoke, the size of markets, and the like. Indeed, at another time it may be interesting and profitable, in terms of market research, to do so.

For the purposes of this discussion, however, the point to be emphasized is that an individual's propensity to smoke or start to smoke (P) cigarettes is determined by a habituation factor (H) and personal and environmental factors (G, C, and R), as expressed by the basic equation:

$$P = (H + C) - (C + R)$$

As these factors, real or perceived, change as a result of the smoking-health controversy, the individual's propensity to smoke will change, as will his preference for a given type of cigarettes, his rate of consumption, and the size of the aggregate market.

50510 1955

52614 7577

This basic, simplistic equation describing consumer behavior will form the basis for much of which is to follow dealing with resolution of the smoking-health controversy.

II. The Anti-Tobacco Allegations: Effects on Consumer Behavior

The allegations and activities of the anti-tobacco forces in the smoking-health controversy are well known. The controversy intensifies and escalates, and will doubtless continue for many years. Whether or not the anti-tobacco allegations are true, growing numbers of people believe them to be at least partially true and are altering their attitudes and actions accordingly.

Pre-smokers are made increasingly apprehensive about the health consequences of smoking, and confirmed smokers are being influenced to switch to "safer" cigarettes, cut down on smoking, or cease altogether. The social desirability of smoking is decreased as the anti- or non-smoking groups grow in numbers, and many of the positive social, emotional and ego gratifications once derived from smoking are sharply attenuated by changes brought about in the attitudinal environment or by health-anxiety on the part of the smoker. These and many related forces tend to reduce the gratifications (G) expected or derived from smoking.

At the same time, cigarette taxes, largely punitive, are driving the cost (C) of cigarettes upward. The government is moving increasingly toward restrictions on composition, advertising and sale on cigarettes (R).

Returning to our basic equation described earlier, indicating by arrows the direction of changes occurring in smoking factors,

$$P = (K + G) - (C + R)$$

and generalizing, we see that the allegations and activities of the anti-tobacco forces are reducing the propensity of the individual to smoke by reducing the over-all gratifications derived, by increasing the cost of cigarettes, and by increasing the amount of government regulation on the marketing of cigarettes. Changing values of P cause switches in cigarette types favored by consumers and cause some smokers and pre-smokers to become or remain non-smokers. Reduced aggregate values of P appear to indicate reduction in the total amount of cigarettes consumed. Thus, the anti-tobacco allegations are having an effect on consumer behavior which is clearly adverse to the interests of the tobacco industry.

III. The Response by the Tobacco Industry: The "Safer" Cigarette Strategy

A. The Strategy

In response to the health allegations of the anti-tobacco forces, the tobacco industry has been largely forced to search for and market a never-ending stream of "safer" cigarettes. The theory here, one supposes, is that at some point in time the tobacco industry will reach an equilibrium position where its cigarettes barely satisfy the smoker

50510 1956

52614 7578

on the one hand and barely appease the anti-tobacco forces on the other. That this is a prudent and valid business strategy for the short term is without question — no other strategy is possible. However, as will be seen below, this strategy has serious long term implications which are somewhat disturbing.

b. Effects of the "Safer" Cigarette Strategy

In its search for "safer" cigarettes, the tobacco industry has, in essentially every case, simply reduced the amount of nicotine (N) and amount and/or quality of smoke delivered to the smoker, thereby perhaps weaning the smoker away from nicotine habituation and depriving him of parts of the gratification desired or expected.

The expense of discovering, manufacturing and marketing of multiple, "safer" brands is reflected in higher cigarette prices (C).

Returning again to our basic equation, indicating by arrows the direction of changes occurring in smoking factors,

$$P = (N + G) - (C + R)$$

and generalizing, we see that the quest for a "safer" cigarette is reducing the propensity of individuals to smoke by reducing much of the gratification obtained and by increasing the cost of cigarettes. Hopefully, by now the reader is sufficiently familiar with the equation used to see the further implications of these changes in terms of brand switching, share of market shifts among cigarette types, and changes in the size of the aggregate market.

c. Long-Term Implications of "Safer" Cigarette Strategy

Combining the effects of the anti-tobacco allegations + with the effects of the "safer" cigarette strategy ↓, as outlined above, produces an equation which looks like this:

$$P = (N + G) - (C + R)$$

That is to say, the effects of the anti-tobacco allegations are re-enforced by the effects of the "safer" cigarette strategy, leading to a marked decrease in the average propensity, P, of the present or potential smoker to smoke.

The theory that a "safer" cigarette may be found which will, on a permanent basis, satisfy the smoker on the one hand and appease the anti-tobacco forces on the other is open to question. Based on sales figures of high filtration cigarettes and on increasingly critical positions taken by the anti-tobacco forces, no compromise, "reasonably safe" product will sell or be free from attack for any extended period. No matter what

20530 1957

52614 7579

strides toward "safer" cigarettes are made, it appears unlikely that the anti-tobacco forces will rest for long. This may well mean that the increasing quest for "safer" cigarettes is in the end self-defeating, since it leads ultimately to cigarettes wholly unsatisfying to the smoker ($P = 0$), and the market vanishes.

Thus, unless some miraculous solution to the smoking-health problem is found, the present "safer" cigarette strategy, while prudent and fruitful for the short term, may be equivalent to long term liquidation of the cigarette industry. This is largely due to the fact that the "safer" cigarette strategy is defensive in nature, and probably can never offer a positive, complete solution to the problem at hand which is acceptable to the consumer and to the tobacco critics.

If there is even a chance that the "safer" cigarette strategy may fail to solve the smoking-health problem and may lead to the long range self-defeating consequences indicated above, then it becomes imperative that we consider alternate strategies and pursue them while we have the time and means to do so.

D. A NEW PRODUCT STRATEGY FOR CIRCUMVENTING DIFFICULTIES ARISING FROM THE SMOKING-HEALTH CONTROVERSY

The sections which follow state the proposed new strategy, examine that strategy, and define steps necessary to validate, and if appropriate, implement the new strategy.

1. The Proposed New Strategy

The use of cigarettes provides unique, valued gratifications to smokers which cannot now be obtained from use of any present non-tobacco product. This must be true because in the face of the smoking-health controversy, large numbers of people begin to smoke and/or continue to smoke. Clearly a large market for our unique package of gratifications exists, and if the alleged health hazards could be eliminated a new, much larger market should emerge.

Our new strategy then, in simplistic terms, should be to define the gratifications expected or derived from cigarette smoking and to devise and market profitable new products — away from conventional cigarettes — which will provide those same gratifications with no significant hazard to the health of the user.

For the purposes of this discussion, it must be assumed that: (1) nicotine, the physiological habituation factor in all tobacco products is a sine qua non, and (2) ingestion of small amounts of nicotine at controlled rates does not constitute a significant hazard to health.

50510 1958

52614 7580

11. The New Strategy and the Generalized Equation

In the discussion above, the equation

$$P = (H + G) - (C + R)$$

was used to relate the propensity of an individual to smoke, P , to the positive $(H + G)$ and negative $(C + R)$ factors involved in smoking. If we now extend the definition of P to include propensity to smoke and propensity to obtain the satisfactions expected or derived from smoking via other products, the same basic equation becomes applicable to validation and execution of the new strategy proposed above.

a. Habituation Factor (H)

It must be assumed that nicotine is the sine qua non of smoking. Accordingly, any substitute product probably must deliver certain minimal quantities of nicotine, giving H a positive value.

b. Gratification Factor (G)

If, by definition, all factors carrying significant health hazards are eliminated from new products, and the new products embody all of the gratifications — physical, social, ego, emotional, etc. — expected or derived from smoking, then the value of the gratification factor (G) becomes strongly positive.

c. Cost Factor (C)

The cost of the new products should be, in order of magnitude, similar to the cost of present tobacco products in terms of cost of use per day. Thus, the value of C would not materially change.

d. Regulatory Factor (R)

The new products should be designed to avoid regulations or taxes presently imposed on cigarettes. Thus, the value of R should decrease.

e. Summary of Effects — Implications

From the above, the propensity for individuals to use the new products (P) would be high as compared to propensity to smoke cigarettes because, with respect to cigarettes, the value of G would be sharply increased, and the value of R would be decreased. Or, using arrows (\uparrow) to indicate change in our basic equation

$$\begin{array}{c} \uparrow \\ P = (H + \uparrow G) - (C + \downarrow R) \\ \uparrow \end{array}$$

If the above is true, then the new products might be more than a one-to-one substitute for cigarettes and should appeal to a market broader in age span and larger in size than the present market for

50510 1959

52614 7581

cigarettes. Also, without the overhanging cloud of health hazard, the new market should grow with population growth. This is, in essence, to be accomplished by giving the consumer what he wants, eliminating those things that he does not want, and is thus highly consumer-oriented in concept.

E. VALIDATION AND IMPLEMENTATION OF THE NEW STRATEGY

Chart I shows, in idealized form, the steps involved in validation and implementation of the proposed new strategy. These steps are described on the following page.

I. Formation of a Project Group

As implied above and as will become increasingly apparent in this discussion, validation and implementation of the new strategy will require the pooling of a variety of skills and activities. Accordingly, an initial project group representing the required disciplines and capabilities should be formed at the outset.

The initial function of the project group should be to critically consider the new strategy and, if appropriate, to determine its viability. If the strategy is shown to be valid, then the project group would be responsible for planning and implementation.

The initial project group, with its own budget and with responsibility to a Corporate officer, should be composed of members with knowledge in the following areas: physical and biological sciences, marketing research and behavioral science, regulatory situations and patent law, planning, literature resources, and cost estimation. Although many of these skills are present in the Corporation, it is expected that services of outside consultants, laboratories, and the like would also be required.

II. Evaluation of the Role and Use of Nicotine (H)

As stated repeatedly above, nicotine is believed to be the single question of smoking or use of substitute products then: (1) this should be verified, and (2) the possible health hazards associated with ingestion of nicotine in the minimum quantities required should be thoroughly evaluated. This will require careful review of published data and, very probably, further laboratory research.

If it appears likely from all standpoints, including possible FDA interference, that products containing minimal amounts of nicotine may be marketed, then it will be appropriate to move to the next step.

50510 1960

52614 7582

A PLAN FOR VALIDATION AND EXECUTION OF THE PROGRAM . 1941-44



III. Identification of Gratifications Desired or Expected (G)

If the gratifications expected or derived from smoking are to be designed into the new products, it becomes highly important to identify these factors and to rank them in terms of economic importance. This will be a task to be performed by Marketing Research and behavioral scientists.

As a start, the gratifications to be studied might be classified as:

Physical Gratifications

1. Physiological response - nicotine, other.
2. Manipulative - opening package, handling product.
3. Sensory - flavor, visual perceptions, etc.
4. Oral - sucking, chewing, mouth feel.
5. Other - tension releasing activity, etc.

Social Gratifications

1. Group identification - sharing an activity, etc.
2. Release from social tensions - a pause to re-group, something to do with hands, etc.
3. Other

Ego Gratifications

1. Emulation of valued person - parent, adult, etc.
2. Aesthetics - doing a valued thing
3. Other

Ideally, gratifications would be identified and ranked in importance for various population classes, such as smokers and non-smokers, age classes, economic classes, religious and ethnic classes, and the like. Results of this study would indicate what gratifications the new products should provide, and would show the relative economic value to be attached to each gratification.

Accompanying this study should be an investigation of the acceptability to potential users of the theoretical substitute products.

With these studies completed, it should be possible to establish theoretical, idealized product specifications and to predict, grossly, the size of the potential market.

50510 1962

52614 7584

IV. Identification of Constraints

With preliminary, idealized new product specifications established, it will become necessary to consider possible difficulties and constraints which may arise. A preliminary listing of constraints to be considered follows:

Technical Constraints

1. Attainability, in terms of practical realities and availability of materials, technology, and the like for manufacture
2. Safety, in terms of hazard of manufacture, use, or misuse
3. Other - portability, stability, disposability, etc. of product

Business Constraints

1. Profitability - cost of manufacture and distribution, price, size of market, investment, etc.
2. Exclusivity - patentability, lead time, etc.
3. Compatibility with product lines, positions, and strategies.
4. Risks incurred in introducing new products, liability arising from misuse; marketability.
5. Other

Legal-Regulatory Constraints

1. Taxes, present or probable
2. Advertising, free or restricted
3. Composition - may product contain nicotine, etc.
4. Marketing - may products be freely marketed to all age groups, etc.
5. Other

Social-Environmental Constraints

1. Desirability of product in terms of real value and safety to society.
2. Aesthetic considerations as perceived by society.
3. Economic effects on tobacco farmers, etc., and probable regulatory repercussions.
4. Acceptance by anti-tobacco forces as safe?
5. Other

50570 1963

52614 7585

V. Validation of New Strategy; Definition of Practical New Product Specifications

When the studies described above have been completed, the project group will be in position to determine whether or not the proposed new strategy is valid. This decision may well hinge upon the role of nicotine in smoker gratification, the degree of health hazard associated with chronic exposure to minimal amounts of nicotine, and regulatory constraints upon manufacture and marketing of products containing nicotine.

If no insurmountable difficulties are apparent and the new strategy appears to be valid, then the project group should be in position to establish, in general functional terms, some practical specifications for various types of new products.

VI. From New Product Specifications to New Products

As indicated in Chart I, above, after practical new product specifications have been defined, the remaining steps in translating the specifications into new products for sale are essentially the same as those followed in the evolution of any new product. No realistic plan or schedule for accomplishing these steps can be made at the time of this writing.

F. PRELIMINARY ACTIVITY AND PROGRESS

Although various elements of the concepts and strategy presented herein had been discussed at random on an intuitive basis over some years prior to this study, no concerted effort had been made to formulate a conceptual model or unified plan. In the fall of 1958, the writer became convinced that a new business strategy was needed, and began to formulate the concepts, strategies and plans which are the subject of this discussion. In the course of that effort, the basic concept was discussed with many people, all of whom made valuable contributions, as did the existing literature bearing on the general area under consideration.

Concurrent with the largely intellectual activity associated with developing concepts and plans, some preliminary laboratory work was begun in the Chemical Division on development of prototype materials and devices which might be incorporated into the intended new products. It was felt that some tangible evidence showing that the proposed new products are technically feasible would generate interest in the proposed effort and help bring it into view for consideration.

The sections below describe, in bare detail, the various prototype products under consideration and/or study.

I. A Transitional Cigarette-Like Device

In concept this is a simulated cigarette where the tobacco rod burns, but little or no (TPM of 4 or less) smoke reaches the smoker. Instead, a

the tobacco rod burns, but little or no smoke reaches the smoker. Instead, a

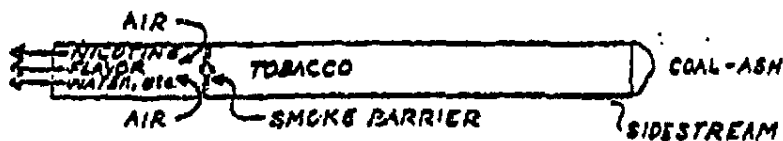
50510 1964

52614 7586

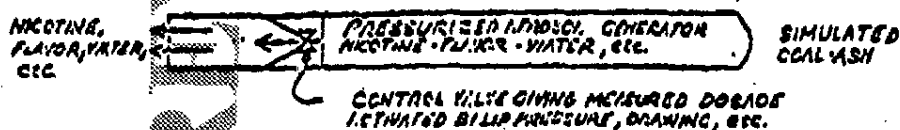
CHART II

ILLUSTRATIVE DESIGN CONCEPTS

I. Transitional: Tobacco-Burning



II. Transitional: No Tobacco



III. Aesthetic

A chewable product (gum?) containing tobacco flavors and nicotine. The nicotine should be partly free (immediate response) and partly bound (slow-release capsule?).

Isn't this really an aesthetically clean chewing tobacco - safe, sanitary, with a well-established history of customer gratification.

IV. Others

a. A CORRELATION OF CHEMICAL PROPERTIES WITH TASTE.

b. A LOW-COST CHEMICAL PROCESS, SIMPLE, EASY, ETC.

c. A LOW-COST CHEMICAL PROCESS, SIMPLE, EASY, ETC.

d. A LOW-COST CHEMICAL PROCESS, SIMPLE, EASY, ETC.

50510 1965

007
1/6/65

52614 7587

Ideally, the total product should dissolve slowly, release nicotine slowly, producing soluble materials suitable for ingestion. The vehicles should perhaps be chewable to some degree, like "jerky", but not gummy.

IV. Other

Many other delivery systems for nicotine, flavor, etc., have been considered but not reduced to practice. Among these are beverages, inhaler devices, and edible products.

G. CONCLUSIONS AND RECOMMENDATIONS

The concepts, strategies and plans presented above have been considered in depth over a period of one year. After searching analysis, the proposed new strategy continues to appear useful in that it is devised to provide the consumer what he wants, without hazard, and at great potential profit to the supplier. The proposed new strategy is also attractive because it provides a positive opportunity to this Corporation while successfully circumventing problems arising from the smoking-health controversy.

Having already recommended study and validation of the proposed new strategy, it would be illogical, despite strong personal convictions, to here urge its immediate adoption. Rather, it is again recommended that a project group be assembled to consider and, if appropriate, work toward validation of the proposed strategy.

If indeed the proposed new strategy is practical and useful, it behooves us to consider it promptly before some other organization does. During the course of this work, an account (Exhibit I) of a competitor's activity in this same general area came to light, re-enforcing the above statement.

Clearly, the present discussion cannot be considered to be the final word. Rather, it is hoped that it may represent a point of departure for evolution of profitable new products. That evolution will result from the criticisms, suggestions, information and ideas provided by others who may become involved.

50510 1966

52614 7588

ACKNOWLEDGMENTS

The writer is indebted to Dr. Murray Senkus, Dr. Frank G. Colby, Mr. J. R. Marion, Mr. R. A. Blevins, Dr. T. P. Maller, Dr. E. D. Nielson, Dr. A. H. Laurene, Dr. J. D. Woods, and Dr. C. J. Cavallito for ideas, suggestions, criticisms, data, and encouragement in developing and pursuing the thoughts presented above. He is also indebted to the faculty of 1968-1969 Executive Program at the University of North Carolina for stimulating his interest in this area, and in particular to his advisor there, Dr. R. A. Rehder, who provided encouragement and special assistance in the areas of behavioral science, strategic planning, and systems analysis.

C. E. Teague, Jr.
 Claude E. Teague, Jr.

First Draft - November 12, 1968
 Second Draft - February 6, 1969

50510 1967

52614 7589



produced by RJTC
in
HUMPHREY

May 24, 1971

Dr. Murray Senkus

Re: Possible IBT Projects

As a result of discussions with Dr. Teague and with Section Heads, the following are suggested as possible IBT undertakings.

1. pH in mouth in response to Turkish smoke, burley smoke, and various components, e.g., ammonia, nicotine, etc.
2. Absorption of nicotine in mouth vs. lungs (blood levels, urine levels).
3. Difference in nicotine impact from free nicotine and bound nicotine; effect of pH of smoke (blood levels, urine levels, smoking tests).
4. Habituation level of nicotine (How low can we go?)
5. What factors important to mouth moistness (menthol, satiating agents, humectants, coating agents, etc.)?
6. Pattern of deposition of tar (mouth, airways, etc.)

A. H. Laurene
A. H. Laurene

DEPOSITION
EXHIBIT
4

50421 0018

52614 7591

47

5

HUMPHREY

in

produced by R.J.R.T.C

CONFIDENTIAL

CONFIDENTIAL

March 28, 1972

Mr. E. A. Vassallo
Dr. Murray Senkus

CONFIDENTIAL
SECRET

A GAP IN PRESENT CIGARETTE PRODUCT LINES AND AN
OPPORTUNITY TO MARKET A NEW TYPE OF PRODUCT: 15 By

SUMMARY:

Study of the latest Maxwell Report in combination with the latest FTC Report, and other information, leads to the conclusion that there is a gap in present cigarette product lines, hence an opportunity to market a unique new type of cigarette. The gap exists because no cigarette is presently marketed which has both an acceptable level of nicotine and a "tar"-to-nicotine ratio (T/N Ratio)¹ of less than 13. This study indicates that the new type of cigarette should deliver 1.3 mg of nicotine and 13 mg. of "tar", hence would have a uniquely low and desirable T/N Ratio of 10.

T/N Ratio is simply a way of expressing the number of milligrams of "tar" a smoker must receive per milligram of smoke nicotine. In today's market, it is fair to assume that the smoker will choose the product which delivers the desired amount of nicotine with the least amount of "tar", provided flavor and other qualities are good. That is, at the desired nicotine delivery, calculated to be 1.3 mg., the smoker will choose the cigarette offering the lowest T/N Ratio, if other qualities are satisfactory. With current brands at or even near the desired nicotine level, the smoker is offered no brand with a T/N Ratio below 13. Indeed, of all 121 brands tested by the FTC, the only one with a T/N Ratio less than 13 is Carlton, and it delivers only 0.4 mg. of

¹T/N Ratio is calculated by simply dividing mg. of FTC "tar" by mg. of FTC smoke nicotine.



51

52614 7593

nicotine. Therefore, given the option which he presently does not have, I believe the average smoker would choose the satisfying product described above with a uniquely low T/N Ratio of 10. I further believe that it is now possible to produce a high quality cigarette having the specifications outlined, and recommend that we proceed to prepare and evaluate prototypes as soon as possible.

The memorandum below details the calculations, assumptions and reasoning which support this recommendation.

produced by RJRT C

in

HUMPHREY

00007 0000

MEMORANDUM:

Study of the latest Maxwell Report¹ in combination with the latest FTC Report² on smoke "tar" and nicotine, and other information, leads to the conclusion that there is a gap in present cigarette product lines, hence an opportunity to market a unique new type of cigarette. For reasons which will be developed below, this cigarette should deliver about 1.3 mg. of nicotine and 13 mg. of "tar", hence would have a uniquely low "tar"-to-nicotine ratio (T/N Ratio) of 10. No presently marketed cigarette falls at or near these specifications. There are good reasons to believe that the average smoker would like and use this new type of cigarette and that it is now possible for us to make it.

I believe that for the typical smoker nicotine satisfaction is the dominant desire, as opposed to flavor and other satisfactions. There are wide varieties of foods, beverages and confections from which a variety of flavor and other satisfactions may be obtained, if that were the dominant desire, but tobacco products alone provide nicotine satisfaction -- therefore, that is the primary reason smokers smoke. What the smoker basically wants, I believe, is nicotine satisfaction accompanied by acceptable flavor and mildness. Therefore, in designing any cigarette product, the dominant specification should be nicotine delivery.

¹Tobacco Reporter, November 1971

²August 1971

Data from the Maxwell and FTC Reports, combined in Table I, show that the twenty leading brands deliver an average of about 1.3 mg. of nicotine per cigarette; with individual values ranging from 1.0 mg. to 1.8 mg. per cigarette; fifteen of the twenty brands fall in the range 1.2-1.5 mg. of nicotine per cigarette. On this basis, it is reasonable to believe that a cigarette delivering about 1.3 mg. of nicotine is satisfying and desirable to most smokers, and this is the basis for my specification of this level for the proposed new cigarette.

The next specification to be determined is, in my view, "tar"-to-nicotine ratio (T/N Ratio), this in turn specifying "tar" delivery. T/N Ratio, as used here, is a measure of the amount of "tar" a smoker must receive per milligram of smoke nicotine, and is calculated by simply dividing mg. of "tar" by mg. of smoke nicotine.

In today's market it is reasonable to believe that, given the choice, the typical smoker will choose and use the cigarette which delivers the desired, required amount of nicotine, with satisfactory flavor, mildness and other attributes, accompanied by the least amount of "tar". That is, at the desired nicotine delivery, established above as 1.3 mg. per cigarette, the smoker should choose the product offering the lowest T/N Ratio, with other satisfactory qualities.

How much choice in T/N Ratio does the smoker really have? In view of the wide variety of cigarette products marketed, with wide variations in "tar" and nicotine contents, I had assumed that there would be a full range of T/N Ratios available. Surprisingly, such is not the case. As may be seen from calculations shown in the Appendix on all 121 brands studied by

Produced by RJEATC

50097 6871

52614 7596

Maxwell

TABLE 1

FTC

COMBINED DATA FROM MAXWELL AND FTC REPORTS

Sales Rank	% Market Share	Brand	mg. FTC "Tar"	mg. Nicotine	Tar/Nicotine Ratio
1	12.2	WINSTON (king, filter, soft pack)	19.4	1.32	14.7
2	7.6	Pall Mall (king, no filter)	29.2	1.82	16.0
3	6.7	Kool (king, filter, menthol)	18.4	1.40	13.1
4	6.5	SALEN (king, filter, menthol)	19.0	1.26	15.1
5	5.1	Marlboro (80 mm.; filter, box)	19.0	1.25	15.2
6	5.0	CAMEL (regular, no filter)	24.7	1.45	17.0
7	4.6	Marlboro (king, filter, soft pack)	19.7	1.32	14.9
8	3.9	Kent (king, filter, soft pack)	16.7	0.98	17.3
9	3.1	Viceroy (king, filter)	17.4	1.19	14.6
10	2.8	WINSTON (100 mm., filter)	20.0	1.34	14.9
Subtotal	57.3	Average 1-10	20.4	1.33	15.3
11	2.6	Tareyton (king, filter)	19.1	1.26	15.2
12	2.4	Lucky Strike (regular, no filter)	28.7	1.67	17.2
13	2.3	Raleigh (king, filter)	17.3	1.21	14.3
14	2.2	L & M (king, filter)	19.0	1.26	15.1
15	2.0	Benson & Hedges (100 mm., filter)	20.6	1.39	14.8
16	2.0	SALEN (100 mm., filter, menthol)	19.6	1.30	15.0
17	1.9	Pall Mall (100 mm., filter)	18.8	1.33	14.1
18	1.3	Belair (king, filter, menthol)	17.1	1.25	13.7
19	1.2	Lark (king, filter)	16.7	1.03	16.2
20	1.2	Chesterfield (king, no filter)	29.2	1.74	16.8
Subtotal	19.1	Average 11-20	20.6	1.34	15.2
1-20 Total	76.4	Average 1-20	20.5	1.34	15.3

Produced by EART

0007 0072

the FTC, only Carlton ("tar" 4 mg.; nicotine 0.4 mg; T/N Ratio 10) shows a T/N Ratio lower than 13, and at or even near our specified nicotine delivery value of 1.3 mg., there is no brand with a T/N Ratio of less than 13.

Thus at our specified nicotine level of 1.3 mg. the smoker must receive at least 17 mg. of "tar" -- and usually considerably more -- when using any existing brand. No other option is currently available to him, and therein lies a gap, an unmet need, and a marketing opportunity.

With our evolving new research technology, I believe it is possible to manufacture a high quality cigarette which will deliver 1.3 mg. of nicotine at a uniquely low T/N Ratio of 10, meaning that it will deliver 13 mg. of "tar". There is no such product on the market, and I believe, given the option, a large number of smokers would choose and use this type of product if it were made available. This would be a satisfying smoke, with good smoke visibility and mouth feel; and with our current research knowledge in the areas of flavor, blending, smoke balance, and the like, I am convinced that it could have very good flavor and mildness. Using elements of the present discussion as a basis, I believe we might have a compelling story to tell the consumer about our unique new product -- a product with demonstrable satisfaction and quality.

Produced by EARTC

50097 6073

DISCUSSION AND RECOMMENDATIONS:

At first glance, this proposal to develop a cigarette delivering 1.3 mg. of nicotine and 13 mg. of "tar" with a T/N Ratio of 10 will appear to be simply a restatement of the well-known objective of producing a "good-tasting, satisfying cigarette with reduced tar". Indeed, the product proposed here does meet that definition, but in a unique way. Most past efforts in this direction have failed, because they were based on non-selective reduction of "tar", letting the nicotine fall correspondingly -- or deliberately reducing it further. This, I believe, has been a backwards approach, because it ignores the crucial role that nicotine plays in satisfaction and flavor, and it does nothing to reduce the amount of "tar" per day the smoker must obtain in satisfying his relatively fixed per hour and per day desire for nicotine.

In theory, and probably in fact, a given smoker on a given day has a rather fixed per hour and per day requirement for nicotine. Given a cigarette that delivers less nicotine than he desires, the smoker will subconsciously adjust his puff volume and frequency, and smoking frequency, so as to obtain and maintain his per hour and per day requirement for nicotine (or, more likely, will change to a brand delivering his desired per cigarette level of nicotine). Thus, despite the philosophy of our critics, there can be no virtue or logic in reducing per cigarette nicotine level below that desired by the smoker. Additionally, if this be true, and if all leading cigarette brands deliver about the same amount of "tar" per unit of nicotine -- that is, all have about the same T/N Ratio -- then regardless of which cigarette the smoker chooses, in obtaining his daily nicotine requirement he will receive about the same daily amount of "tar". If, as claimed by some anti-tobacco critics, the alleged health hazard of smoking is directly

Produced by RJRTC

Give
AM

REF. B
FACILITATION

50007 0074

52614 7599

related to the amount of "tar" to which the smoker is exposed per day, and the smoker bases his consumption on nicotine, then a present "low tar, low nicotine" cigarette offers zero advantage to the smoker over a "regular" filter cigarette, but simply costs him more money and exposes him to substantially increased amounts of allegedly harmful gas phase components in obtaining his desired daily amount of nicotine. If he desires to obtain his desired per hour and per day nicotine satisfaction at reduced daily "tar" intake, the smoker currently has little or no option. A cigarette delivering 1.3 mg. of nicotine with a T/N Ratio of 10 would give him this option, and I believe he would take it.

In recent months, there appears to have been a change in philosophy among the critics of cigarette smoking. There appears to be an acceptance of the fact that large numbers of people desire and will continue to smoke. Thus, instead of arguing for prohibition or cessation of smoking, the critics now turn their attention to urging that cigarettes be made as free of the alleged hazards of smoking as possible. If we carry this to a rational conclusion, we see that the reason large numbers of people will continue to smoke is that they desire the satisfactions uniquely supplied by nicotine; and it is entirely reasonable, then, to provide the minimum satisfying amount of nicotine (apparently 1.3 mg./cigarette) with the minimum practical T/N Ratio (currently 10) in a product which the smoker will like and use. The 1.3 mg. of smoke nicotine, T/N Ratio 10, product proposed in this discussion would provide an affirmative response to the current position of our critics, would meet a currently unmet consumer need, and, most importantly, would be a product which the consumer would like and use.

00097 0073

It should be understood that the numerical specifications given here for the proposed new product are not absolute, and may be altered slightly by more precise analysis of existing data (e.g., use of weighted averages, segregation of data by product type, etc.), new data, changes in smoking patterns, and the like. What is important, I believe, is the approach which I have outlined, which is to:

1. Set smoke nicotine at the minimum level necessary to satisfy the mass market.
2. Adjust T/N Ratio to the lowest value consistent with available technology and consumer acceptance.
3. Design blend, flavor, smoke balance and the like, together with physical properties, to make a product pleasing to the consumer.
4. Adjust the particulate phase-to-gas phase ratio to a satisfactory level.

In view of the above, I recommend that we develop and evaluate a prototype cigarette delivering 1.3 mg. of nicotine at a T/N Ratio of 10 as soon as possible. I recommend also that we continue research aimed in this direction, with emphasis upon, enhancing the satisfying effect of nicotine and upon further reducing T/N Ratios below the initial level of 10.

The thoughts and philosophies expressed above come from many sources and certainly are not solely those of the writer. The purpose of this writing is to collect and organize those thoughts in a logical, meaningful manner, and to provide some quantitative supporting and target data for defining the new type of product proposed.


Claude E. Teague, Jr.

:jhb

50097 6876

52614 7601

9

HUMPHREY

in

Produced by P.J.T.C.

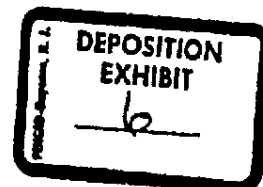
RJR
CONFIDENTIAL

RESEARCH PLANNING MEMORANDUM

ON

THE NATURE OF THE TOBACCO BUSINESS AND THE CRUCIAL

ROLE OF NICOTINE THEREIN



MEMORANDUM:

In a sense, the tobacco industry may be thought of as being a specialized, highly ritualized and stylized segment of the pharmaceutical industry. Tobacco products, uniquely, contain and deliver nicotine, a potent drug with a variety of physiological effects. Related alkaloids, and probably other compounds, with desired physiological effects are also present in tobacco and/or its smoke. Nicotine is known to be a habit-forming alkaloid, hence the confirmed user of tobacco products is primarily seeking the physiological "satisfaction" derived from nicotine -- and perhaps other active compounds. His choice of product and pattern of usage are primarily determined by his individual nicotine dosage requirements and secondarily by a variety of other considerations including flavor and irritancy of the product, social patterns and needs, physical and manipulative gratifications, convenience, cost, health considerations, and the like. Thus a tobacco product is, in essence, a vehicle for delivery of nicotine, designed to deliver the nicotine in a generally acceptable and attractive form. Our Industry is then based upon design, manufacture and sale of attractive dosage forms of nicotine, and our Company's position in our Industry is determined by our ability to produce dosage forms of nicotine which have more overall value, tangible or intangible, to the consumer than those of our competitors.

The habituated user of tobacco products is said to derive "satisfaction" from nicotine. Although much studied, the physiological actions of nicotine are still poorly understood and appear to be many and varied. For example, in different situations and at different dose levels, nicotine appears to act as a stimulant, depressant, tranquilizer, psychic energizer, appetite reducer, anti-fatigue agent, or energizer, to name but a few of the varied and often

contradictory effects attributed to it. Many of these same effects may be achieved with other physiologically active materials such as caffeine, alcohol, tranquilizers, sedatives, euphorics, and the like. Therefore, in addition to competing with products of the tobacco industry, our products may, in a sense, compete with a variety of other products with certain types of drug action. All of these products, tobacco and other, appear to have certain common attributes in that they are used largely to relieve, in one way or another, the fatigues and stresses which arise in the course of existence in a complex society.

Happily for the tobacco industry, nicotine is both habituating and unique in its variety of physiological actions, hence no other active material or combination of materials provides equivalent "satisfaction". Whether nicotine will, over the long term, maintain its unique position is subject to some reasonable doubt. With increased sophistication of knowledge in the biological and pharmaceutical areas, a superior or at least equivalent product or product mixture may emerge. For this reason, it would be a mistake to assume that the tobacco industry, as we now know it, is immortal or that no direct competition from organizations outside of the tobacco industry will ever occur. It is safe to assume, however, that nicotine will retain its unique position throughout the present ten year planning period, and probably for a much longer span of time.

If nicotine is the sine qua non of tobacco products and tobacco products are recognized as being attractive dosage forms of nicotine, then it is logical to design our products -- and where possible, our advertising -- around nicotine delivery rather than "tar" delivery or flavor. To do this we need to

develop new data on such things as the physiological effects of nicotine, the rate of absorption and elimination of nicotine delivered in different doses at different frequencies and by different routes, and ways of enhancing or diminishing nicotine effects and "satisfactions". In the absence of such data, we may survey the market and conclude that current cigarette products delivering about 1.3 mg. of nicotine appear to "satisfy" the typical smoker. This, somewhat crudely, establishes a target dosage level for design of new products. An accompanying Research Planning Proposal describes that approach in some detail. However, if we knew more about nicotine absorption, action, elimination, enhancement and the like, it should, in theory, be possible to more precisely specify, and deliver, the optimum amounts of nicotine activity in sophisticated products which would be more satisfying and desirable to the user. This area merits consideration and activity.

Before proceeding too far in the direction of design of dosage forms for nicotine, it may be well to consider another aspect of our business; that is, the factors which induce a pre-smoker or non-smoker to become a habituated smoker. Paradoxically, the things which keep a confirmed smoker habituated and "satisfied", i.e., nicotine and secondary physical and manipulative gratifications, are unknown and/or largely unexplained to the non-smoker. He does not start smoking to obtain undefined physiological gratifications or reliefs, and certainly he does not start to smoke to satisfy a non-existent craving for nicotine. Rather, he appears to start to smoke for purely psychological reasons -- to emulate a valued image, to conform, to experiment, to defy, to be daring, to have something to do with his hands, and the like. Only after experiencing smoking for some period of time do the physiological "satisfactions" and habituation become apparent and needed. Indeed, the first

50510 1996 52614 7606

smoking experiences are often unpleasant until a tolerance for nicotine has been developed. This leaves us, then, in the position of attempting to design and promote the same product to two different types of market with two different sets of motivations, needs and expectations. The same situation is encountered in some industries, but the problem is usually not as severe.

If what we have said about the habituated smoker is true, then products designed for him should emphasize nicotine, nicotine delivery efficiency, nicotine satisfaction, and the like. What we should really make and sell would be the proper dosage form of nicotine with as many other built-in attractions and gratifications as possible -- that is, an efficient nicotine delivery system with satisfactory flavor, mildness, convenience, cost, etc. On the other hand, if we are to attract the non-smoker or pre-smoker, there is nothing in this type of product that he would currently understand or desire. We have deliberately played down the role of nicotine, hence the non-smoker has little or no knowledge of what satisfactions it may offer him, and no desire to try it. Instead, we somehow must convince him with wholly irrational reasons that he should try smoking, in the hope that he will for himself then discover the real "satisfactions" obtainable. And, of course, in the present advertising climate, our opportunities to talk to the pre-smoker are increasingly limited, and therefore, increasingly ineffective. Would it not be better, in the long run, to identify in our own minds and in the minds of our customers what we are really selling, i.e., nicotine satisfaction? This would enable us to speak directly of the virtues of our product to the confirmed smoker, and would educate the pre-smoker, perhaps indirectly but effectively, in what we have to offer and what it would be expected to do for him.

But again, the picture is not quite all that clear. Critics of tobacco products increasingly allege that smoking is dangerous to the health of the smoker. Part of this alleged danger is claimed to arise from ingestion of nicotine and part is claimed to arise from smoke components or smoke "tar". If, as proposed above, nicotine is the sine qua non of smoking, and if we meekly accept the allegations of our critics and move toward reduction or elimination of nicotine from our products, then we shall eventually liquidate our business. If we intend to remain in business and our business is the manufacture and sale of dosage forms of nicotine, then at some point we must make a stand. We should know more, rather than less, than our critics about the physiological effects of nicotine, and we should in all ways scientifically validate and speak to the beneficial effects and "satisfactions" derived from use of nicotine. Essentially all commercial drugs give rise to some undesirable side effects, but we continue to use them with great benefit to humanity because of their overriding beneficial effects. Might we not take a leaf from that book in our approach to nicotine? Unless we do, our long-term prospects become unattractive.

Our critics have lumped "tar" and nicotine together in their allegations about health hazards, perhaps because "tar" and nicotine are generated together in varying proportions when tobacco is smoked. An accompanying Research Planning Memorandum suggests an approach to reducing the amount of "tar" in cigarette smoke per unit of nicotine. That is probably the most realistic approach in today's market for conventional cigarette products. However, another more futuristic approach is possible which goes more directly to the fundamentals of the alleged problem.

50510 199A

52614 7608

smoked to produce 20 mg. of "tar" the 1.3 mg of surely an inefficient obtain nicotine then be possible pharmaceutical efficient, effective phase, or other incorporate various would be designed desired release a product would

In the present real situation, where nothing has been done to counteract the adverse allegations about nicotine and where conventional products delivering adequate amounts of nicotine dominate the marketplace, no abrupt change in our posture or strategy would be appropriate or reasonable. The approaches advocated above are aimed at stopping and eventually reversing a trend that may in the long term put us out of business, and are intended to lay a framework of philosophy around which research efforts may now begin. Hopefully, some day we will rejoice rather than despair when a new crop of tobacco shows an unusually high content of nicotine, our primary product. Hopefully, with time we will be able to develop sophisticated and improved minimum dosage forms for nicotine which will be more satisfying to the user and free of alleged health hazards. And hopefully, by that time, we will have been able to establish and use information showing that use of nicotine fills real demonstrable human needs, the beneficial effects overriding the alleged harmful side effects.

INDICATED RESEARCH DEPARTMENT ACTIVITIES AND APPROACHES:

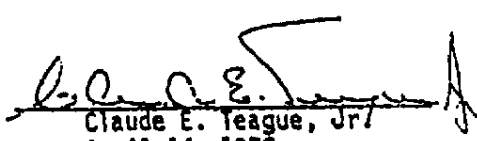
If the above is a valid line of reasoning, then our long-term future courses of action should be as follow:

1. Recognize the key role of nicotine in consumer satisfaction, and design and promote our products with this in mind.
2. More precisely define the minimum amount of nicotine required for "satisfaction" in terms of dose levels, dose frequency, dosage form, and the like. This would involve biological and other experiments.
3. Sponsor in-depth studies of the physiological, psychological and other effects of nicotine, aimed at demonstrating the beneficial effects of nicotine and at disproving allegations that nicotine produces major adverse effects.

50510 2000

52614 7610

4. Study, design and evaluate new or improved systems for delivery of nicotine which will provide the minimum satisfying amount of nicotine in attractive form, free of allegedly harmful combustion products.
5. Study means for enhancing nicotine satisfaction via synergists, alteration of pH, or other means, to minimize dose level and maximize desired effects.
6. Monitor developments in materials and products which may compete with nicotine products or which might be combined with nicotine products to provide added advantages or satisfactions.
7. Monitor work by others which might be aimed at improved nicotine delivery systems of the type proposed here.
8. Search for and evaluate other physiologically active components of tobacco or its smoke which may provide desired effects to the smoker.


 Claude E. Teague, Jr.
 April 14, 1972

:jhb

1

HUMPHREY

in

produced by JRTC

RJR 00512

RJR
CONFIDENTIAL

produced by RJRTC
in
HUMPHREY

RESEARCH PLANNING MEMORANDUM

ON

PRODUCTS MADE WITH PURIFIED TOBACCO SMOKE CONDENSATE

56091 6658

DEPOSITION
EXHIBIT

7

54

52614 7613

MEMORANDUM:

Our primary product is, in effect, the distillation-combustion-pyrolysis particulate matter derived from tobacco, in aerosol form. The processes operating during burning of tobacco produce many desirable smoke components, such as nicotine and flavorants, but in addition produce some components alleged to be harmful to the smoker. As far as is known, none of these allegedly harmful components of smoke, with the exception of nicotine, contribute anything to the pleasures and satisfactions expected and derived from smoking. It may be possible, then, for the manufacturer to pre-smoke tobaccos, collect the smoke condensate, process the condensate for removal of allegedly undesirable smoke components, and then sell the purified smoke condensate in some form of delivery system which would avoid further exposure of the purified smoke condensate to high temperatures.

The manufacturing process for production of purified smoke condensate might offer many simplifications, economies, and other advantages over the present processes for conversion of tobacco to cigarettes. Thus whole leaf, with stems, might be converted, when and as purchased, to "crude" smoke condensate -- perhaps separately by type of tobacco or even by grade. The "crude" condensate could then be stored and processed as needed. The smoking could be done in large batch or continuous chambers permitting close control of smoking conditions. The "crude" smoke condensates could then be processed for removal of allegedly harmful or undesirable components, and the purified condensates could be blended, as required, with close control of composition, to produce the desired properties and compositions for various products. The gas phase components, many of which are alleged to be undesirable, would be largely eliminated.

5001 5658a

The purified smoke condensate might then be sold in any one of a number of delivery systems. Perhaps it could be delivered via a lozenge, chewing material, or similar product. Alternatively, it might be incorporated into a spray or pressure system for delivering it as a smoke-like aerosol. Or, it might be delivered via a relatively low-temperature heating device for vaporization. Many possibilities exist and would need to be explored.

The product system contemplated here would require some years to perfect, would be designed for a market that may exist only five or more years in the future, hence is the proper objective of a long-range research program. If this system could be perfected it, though revolutionary, would offer major advantages to both the manufacturer and the consumer.


 Claude E. League, Jr.
 April 12, 1972

50091 5659

52614 7615

8

HUMPHREY

in

produced by RJRTC

RJR

Inter-office Memorandum

Subject: High Nicotine Tar Ratio Cigarette

Date: May 19, 1972

To: Dr. C. E. Yeagus, Jr.

From: Frank G. Colby

In my judgment, it is desirable to complete the above mentioned research project as soon as possible because we may otherwise be beaten by our competition.

On May 8-10, I attended a Program Committee Meeting for the CORESTA/TCRC Conference to be held this October in Williamsburg. The purpose of this meeting was to screen papers. At this meeting I had a conversation with Mr. R. S. Wade, Manager for Research and Development of Imperial Tobacco Company of Canada. He explained in some detail how desirable it would be to have a high nicotine tar ratio cigarette, but said that unfortunately he did not have any idea how to realize this technology. Naturally, I did not mention in any way our interest in this subject.

I also saw a draft of a paper by Dr. Dunne, who is a full-time psychologist with Philip Morris. He very much emphasized in this paper the key role of nicotine in smoking, and even though this was not stated in the paper, there was a hint that Philip Morris might be thinking in terms of high nicotine cigarettes. Unfortunately, I could not get a copy of this paper since it was in draft form for the judgment of the Committee and had not yet - because of timing factors - been submitted to Philip Morris management for approval in detail.

I feel these two incidents prove that the high nicotine tar ratio cigarette is a concept which is "very much in the air." We should definitely make an effort to be first.

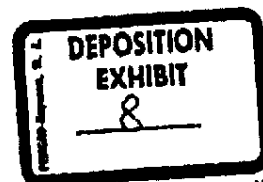

Frank G. Colby

FGC/peg
Cc: Dr. Senkus
Dr. Laurens

(172)
SECRET

No. 15 By _____

0/111 FORM 3492 - Nov. 7/70



50025 0525

52614 7617

6

produced by RJRT
in
HUMPHREY

Produced by RJRTC

MOTIVES AND INCENTIVES IN CIGARETTE SMOKING

William L. Bush, Jr.
Philip Morris Research Center
Richmond, Virginia

(A Summary)

The question is put as to why people smoke. The answer is proposed that one smokes to obtain nicotine. It is contended in this paper that nicotine, specially packed, is the cigarette industry's product. Human engineering features of the cigarette are discussed to explain why it has become the favored smoking form and to support the argument that it cannot readily be replaced as the nicotine package of choice.

The smoker takes nicotine into his system in order to obtain the salutary effects of nicotine upon body functioning. This observation is inferential, for the salutary effects have yet to be isolated from among the many physiological effects resulting from the inhalation of smoke.

The evidence bearing upon the question of motivation in smoking is summarized under three headings: 1) The reported psychological differences between smokers and non-smokers are discussed as a source of clues as to why some smoke and others do not.

1001804656

DEPOSITION
EXHIBIT

9

TRIAL EXHIBIT
10,423

52614 7619

2) The reported immediate physiological effects of smoke inhalation are then discussed as to their possible relevance to motivation in smoking. Many investigators have been struck by the similarity of most of these physiological responses to those accompanying emotional arousal, such as anger, fear, anxiety, and joy. The question is raised, "Is it possible that the smoker is seeking to mimic emotional arousal through smoke inhalation?"

3) A summarization of the literature on the influence of situational variables upon smoking rate is then offered: The rate of smoking varies as a function of external conditions which influence the emotional state of the smoker. In fact, smoking rate has been seen to be greatest at the two ends of the arousal continuum. One smokes more when faced with monotony and boredom and also when confronted with stressful circumstances. But these observations point to a paradox: If smoke inhalation causes physiological arousal, why should an already aroused person seek further arousal by smoking? This has come to be known as the Nesbitt paradox. The ultimate test of any theoretical explanation of smoking behavior is its effectiveness in resolving this paradox.

The conceptual models of smoking behavior proposed by Hans Eysenck and by Stanley Schachter are evaluated in terms of their treatment of the Nesbitt paradox. Eysenck hypothesizes two types of smokers, the extrovert seeking an arousal effect and the introvert seeking a calming effect. This conceptualization does not resolve the Nesbitt paradox. Schachter proposes that all

Produced by RJRTC

1001804657

smokers seek the arousal effect, suggesting that under stress the smoker is made more comfortable, hence more able to cope, when he can ascribe his arousal induced by stress to the effects of inhaled smoke.

Variant of the Schachter model, proposed originally by Frank Ryan, is that the arousal induced by smoking raises the arousal baseline such that incremented arousal due to stress is damped, or modulated, hence less intrusive upon ongoing behavior.

produced by RJRTC

in

HUMPHREY

1001804658

52614 7621

1001804659

RECEIVED

JUN 22 1972

FL WAKEHAM

produced by RJRTC
in
HUMPHREY

10
HUMPHREY
in
produced by RJRT

Presented at COMEST Conference, Williamsburg, Va., Oct. 22-26, 1972

T063109

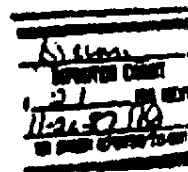
MOTIVES AND INCENTIVES IN CIGARETTE SMOKING

William L. Dunn, Jr.
Philip Morris Research Center
Richmond, Virginia

good source for
constitutional
hypothetical etc.

There is a lovely little island lying about 150 miles east of the Virgin Islands. It is at the northern end of the Antilles, that string of islands flung out crescent-like across the blue Caribbean waters. Legend has it that in the 16th century, both the Dutch and the French lay claim to possession of this tiny body of land. Rather than fight it out as was their wont in those days they showed a surprising and exemplary willingness to apply human reason. A Frenchman and a Dutchman were placed back to back on the beach and told to walk along the beach until they met again on the opposite side. They did so, and a line was drawn between the points of start and finish, dividing the island into the French half called St. Martin, and the Dutch half called San Marteen.

It seems that the Frenchman walked faster than the Dutchman, because the French got the bigger half. Some say this was because the Frenchman was drinking French champagne and the Dutchman was drinking Dutch whiskey. However true all this may be, the two colonies continue to live peacefully under these 16th century terms.



2021422971

52614 7624

In January, 1972, the Dutch side of St. Martin was invaded by an unlikely party of twenty-five scientists. There were pharmacologists, sociologists, anthropologists and a preponderance of psychologists. They came from England, Canada and the United States. Each brought with him a carefully prepared scientific paper which represented his best efforts at attacking the question "Why do people smoke cigarettes?"

Inspired by the rare 16th century display of human reason shown by the French and Dutch colonists, and while not sunning on the beach, they listened to and reflected upon each other's ideas.

You've heard many explanations for cigarette smoking. These were reviewed at the St. Martin conference. I think it appropriate that we list the more commonly proposed explanations here:

- 1) For social acceptance or ego-enhancement
- 2) For pleasure of the senses (taste, smell)
- 3) For oral gratification in the psychoanalytic sense.
- 4) A psychomotor habit for the release of body tension
- 5) For the pharmacological effect of smoke constituents.

I might mention one other explanation, not because anybody believes it but as an example of how distorted one's reasoning can become when under the influence of psychoanalytic theory. Smoking according to this argument, is the consequence of pulmonary eroticism. Translated, this means the lungs have become sexualized and smoking is but another form of the sexual act.

produced by RJRTC

in

2021422972

52614 7625

If one asks the smoker himself why he smokes, he is most likely to say "It's a habit." If he is intelligent enough, he might be more to the point and say either one of two things: "It stimulates me", or "It relaxes me". And now we are already deep into our topic. The polarity of these two observations has plagued investigators for fifty years. The challenge to any theory as to why people smoke lies in the theory's ability to resolve this paradoxical duality of effect.

The St. Martin conference was called by the Council for Tobacco Research, U.S.A., in an effort to goad the scientific community into having another go at the problem. And go at it they did. Much of what follows in this presentation comes from that St. Martin conference.

Most of the conferees would agree with this proposition: The primary incentive to cigarette smoking is the immediate salutary effect of inhaled smoke upon body function. This is not to suggest that this effect is the only incentive. Cigarette smoking is so pervasive of life style that it is inevitable that other secondary incentives should become operative. The conference summarizer, Prof. Seymour Katz of Harvard, used eating as an analogy. Elaborate behavioral rituals, taste preferences, and social institutions have been built around the elemental act of eating, to such an extent that we find pleasure in eating even when not hungry.

It would be difficult for any of us to imagine the fate of eating, were there not ever any nutritive gain involved. It would

produced by RJRT

in

2021422973

52614 7626

be even more provocative to speculate about the fate of sex without orgasm. I'd rather not think about it.

As with eating and copulating, so it is with smoking. The physiological effect serves as the primary incentive; all other incentives are secondary.

The majority of the conferees would go even further and accept the proposition that nicotine is the active constituent of cigarette smoke. Without nicotine, the argument goes, there would be no smoking. Some strong evidence can be marshalled to support this argument:

- 1) No one has ever become a cigarette smoker by smoking cigarettes without nicotine.
- 2) Most of the physiological responses to inhaled smoke have been shown to be nicotine-related.
- 3) Despite many low nicotine brand entries into the marketplace, none of them have captured a substantial segment of the market. In fact, critics of the industry would do well to reflect upon the indifference of the consumer to the industry's efforts to sell low-delivery brands.
- 4) 94% of the cigarettes sold in the U.S. deliver more than 1 mg. of nicotine. 98.5% deliver more than .9 mg. The physiological response to nicotine can readily be elicited by cigarettes delivering in the range of 1 mg. of nicotine.

I hope our English friends who are developing the synthetic nicotineless cigarette are not going to be too disturbed by all this.

produced by RJC/T
in

2021422974

52614 7627

Why then is there not a market for nicotine per se, to be eaten, sucked, drunk, injected, inserted or inhaled as a pure aerosol? The answer, and I feel quite strongly about this, is that the cigarette is in fact among the most awe-inspiring examples of the ingenuity of man. Let me explain my conviction.

The cigarette should be conceived not as a product but as a package. The product is nicotine. The cigarette is but one of many package layers. There is the carton, which contains the pack, which contains the cigarette, which contains the smoke. The smoke is the final package. The smoker must strip off all these package layers to get to that which he seeks.

But consider for a moment what 200 years of trial and error designing has brought in the way of nicotine packaging:

Think of the cigarette pack as a storage container for a day's supply of nicotine:

- 1) It is unobtrusively portable.
- 2) Its contents are instantly accessible.

Think of the cigarette as a dispenser for a dose unit of nicotine:

- 1) It is readily prepped for dispensing nicotine
- 2) Its rate of combustion meters the dispensing rate, setting an upper safe limit for a substance that can be toxic in large doses.
- 3) Dispensing is unobtrusive to most ongoing behavior.

produced by R. J. C.

in

2021422975

52614 7628

Think of a puff of smoke as the vehicle of nicotine:

- 1) A convenient 35 cc mouthful contains approximately the right amount of nicotine.
- 2) The smoker has wide latitude in further calibration: puff volume, puff interval, depth and duration of inhalation. We have recorded wide variability in intake among smokers. Among a group of pack-a-day smokers, some will take in less than the average half-pack smoker, some will take in more than the average two-pack-a-day smoker.
- 3) Highly absorbable: 97% nicotine retention.
- 4) Rapid transfer: nicotine delivered to blood stream in 1 to 3 minutes.
- 5) Non-noxious administration.

Smoke is beyond question the most optimized vehicle of nicotine and the cigarette the most optimized dispenser of smoke. Let anyone be made unduly apprehensive about this drug-like conceptualization of the cigarette, let us hasten to point out that there are many other vehicles of sought-after agents which dispense in dose units: wine is the vehicle and dispenser of alcohol, tea and coffee are the vehicles and dispensers of caffeine, matches dispense dose units of heat, and money is the storage container, vehicle and dose-dispenser of many things.

So much for extolling the virtues of the red. Let us go back now and pick up our discussion of the motivational aspects of smoking. If we accept the premise that nicotine is what the smoker seeks, we've still not answered the question "Why do people smoke?" We've merely reformulated it to read "Why does the smoker take

2021422976

52614 7629

produced by RJRTC

nicotine into his system?"

Systematic research on the question dates back some fifty years to the time when American Tobacco Co. funded the work of a psychologist later to become the most prominent American psychologist of his time. His name was Clark L. Hull. His question then was "Wherein lies the charm of tobacco for those accustomed to its use?"

In order to review the data that has been collected over these intervening fifty years, I have organized it under three headings:

- 1) Differences between smokers and nonsmokers.
- 2) Human physiological responses to inhaled smoke.
- 3) Situational variables related to smoking behavior.

First, then, let us quickly review what is known about the differences between smokers and nonsmokers.

TABLE 1

INDIVIDUAL TRAITS AND GROUP CHARACTERISTICS BY
WHICH A GROUP OF SMOKERS CAN BE DISTINGUISHED
FROM A GROUP OF NONSMOKERS

PERSONALITY TRAITS

- More independent (Pflaum, 1965)
- Greater anti-social tendencies (Smith, 1970)
- More active, energetic (Schubert, 1959; Straits, 1965)
- Higher mean extroversion rating (Smith, 1970)
- "Happy-go-lucky" (Smith, 1969)
- Higher mean measure of "orality" (Smith, 1970)

2021422977

52614 7630

Poorer mental health (Smith, 1970)

Less rigid, less orderly, more impulsive (Smith, 1970)

Greater reliance on "external" than "internal" controls (Smith, 1970)

More chance-oriented (Straits, 1963)

More emotional (Smith, 1967)

Less agreeable (Smith, 1969)

"Type A" personality (More time-conscious, competitive, etc.)
(Rosenman, 1966)

Less "strength of character" (Smith, 1969)

Higher anxiety level (Walker, 1969; Srole, 1968; Thomas, 1968)

LIFE STYLE CHARACTERISTICS

More business-oriented in occupation (Seltzer, 1964)

Poorer academic performance (Yeldman and Bown, 1969; Pumroy,
1967; Salber, 1962)

More users of alcohol (Higgins, Kjelsberg, & Metzner, 1967;
Lilienfeld, 1959)

More users of coffee and tea (Lilienfeld, 1959)

Religious service attendance less frequent (Cattell, 1967;
Straits and Schrest, 1963)

Proportionately higher frequency of marriages and job changes
(Lilienfeld, 1959)

Higher incidence of prior hospitalizations (Lilienfeld, 1959)

Higher incidence of smoking among parents (Salber and Abelin,
1967)

More active participation in sports (Lilienfeld, 1959)

More auto accidents (Ianni and Book, 1958)

produced by RJRTC

in

2021422978

52614 7631

MORPHOLOGICAL TRAITS

Greater body weight (Seltzer, 1963)
Greater height (Seltzer, 1963; Baer, 1966)
Thinner (Higgins and Kjelsberg, 1967)
Higher height/(cube root of weight) ratio (Damon, 1961)
Thinner skin folds (triceps and subscapular) (Higgins and Kjelsberg, 1967)

DEMOGRAPHIC CHARACTERISTICS

More men (Public Health Service Publication No. 1000, 1970)
Proportionately more 25-45 year-olds (Public Health Service Publication No. 1000, 1970)
Lower mean socio-economic class (Salber and MacMahon, 1961)
Proportionately fewer college men (Higgins, Kjelsberg, & Metzner, 1967; Lillianfeld, 1959)
More urban residents (Higgins, Kjelsberg, & Metzner, 1967)

Many of these characteristics have little meaning without considerably greater explanation than is appropriate for this presentation. Suffice it to say that the list does summarize our state of knowledge on the smoker-nonsmoker differences. As for the relevance of this knowledge to the question of motivation in smoking, I would say that it is a rich source of hypotheses and hunches, but unfortunately, that is about as far as it can take us. And I regret to say that the major effort of psychologists has been to search for these differences. Hull warned us fifty years ago that the difference approach was a primrose path, but only recently have psychologists begun to appreciate Hull's warning.

2021422979

52614 7632

The pharmacologists and physiologists have done much better, which leads us to the second body of fact; the human physiological response to smoke. The list in Table 2 again is a summary of our knowledge. To be sure there are other responses, some of which have been noted in the literature, some likely yet to be discovered, but those listed have been reported by at least two non-related laboratories.

TABLE 2
TRANSIENT PHYSIOLOGICAL
RESPONSES TO SMOKE INHALATION

1. Elevated heart rate
2. Elevated coronary flow
3. Elevated blood sugar level
4. Lowered cutaneous temperature in the extremities
5. Increased blood flow in skeletal musculature
6. A reactive release of adrenalin
7. Alterations in electrical potential patterns of the brain involving alpha wave suppression
8. Inhibition of patellar reflex

When these responses have been plotted over time, they have been observed to have their onset within several minutes of smoke inhalation, and they are short-lived, having a decay function with a half-life of about thirty minutes. Onset and decay roughly parallel the coincident plotting of nicotine in the bloodstream. (Isaacs & Rand, 1972)

2021422980

52614 7633

These facts are considerably more relevant to the motivation question than are the facts about smoker-nonsmoker differences. In psychology, when we talk about motivation we refer to a force which impels one to act, and the action is goal-oriented. Hunger, for example, is a motive which impels one to the action of ingesting food. The goal is a state of satiety. Reaching the goal is the reward, and the behavior which is instrumental in reaching the goal is reinforced.

With this in mind, we can now ask several questions "Are any of the listed physiological reactions sought after by the smoker?", "Are these physiological reactions symptomatic of a body state which is the goal of smoking behavior?"

One feature of the list which has impressed many investigators is its close resemblance to the physiological response pattern accompanying emotional arousal, such as fear, anger, even joy. Is this perhaps the goal of the smoker, to achieve a body state which mimics emotional arousal?

In the context of this question, let us now turn to the third body of fact, the situational variables related to smoking behavior. So as not to bore you with references and the recitation of all the evidence, permit me to present this body of fact in the form of a summary statement: The rate and incidence of smoking varies as a function of external conditions which influence the emotional state of the smoker. The evidence at hand permits us to go one step further; the rate and incidence of smoking is highest at the extremes of the arousal continuum.

produced by RJRTC

2021422981

52614 7634

If one were to plot smoking rate against some measure of the smoker's level of bodily arousal, one would observe a nice U-shaped distribution. This observation brings us full circle, for you will recall that at the outset of this presentation I quoted the smoker as explaining his smoking in paradoxical terms: It calms me, it stimulates me.

You may also recall that I stated that the challenge to any explanatory theory of smoking is to resolve this paradoxical duality of effect. At the St. Martin conference, Professor Stanley Schachter, a psychologist at Columbia University, labeled this as the Hesbitt paradox, Hesbitt being a student of Schachter's who called the paradox to his attention.

Let me state this paradox as clearly and succinctly as I can: The known physiological effects of smoking are those that we consider as indicating body activation or arousal. This fits in nicely with the smoker's statement "It stimulates me". But it is highly discordant with the polar explanation which the smoker provides perhaps even more often - "It calms me". How can an agent which is physiologically arousing be calming? And why should an already aroused, excited person seek further physiological arousal?

Summarizing the known facts pertinent to the question of motivation:

- 1) Smoking is relateable to personality variables.
- 2) Smoke inhalation induces documented physiological responses similar to those induced by emotional arousal.

2021422982

52614 7635

produced by RFTC

11

HUMPHREY

in

produced by RJRTC

CONFIDENTIAL

July 3, 1973

Mr. R. A. Blevins, Jr.

Re: CORRELATION OF SMOKE BALANCE FACTORS WITH SCM TRENDS

A preliminary correlation study of smoke balance factors (free nicotine, combined nicotine, tar, nitrogen, ammonia, and sugar) with SCM trends for WINSTON 85's vs. Marlboro 85's and SALEM 85's vs. Kool 85's from 1963 to 1972 confirms the correlation of free nicotine to sales previously reported by Research. Differences in SCM for each year between WINSTON 85's and Marlboro 85's and between SALEM 85's and Kool 85's were correlated with differences in the smoke balance factors (see Table I attached). A correlation of approximately .40 is significant at the 80% level of significance.

While the correlations of differences in SCM with various smoke balance factors (particularly free nicotine) are suggestive, there are other factors, such as differences in advertising expenditures, and differences in SCM of the 100's for the brands also significantly correlated with differences in SCM. Assuming that cause and effect relationships do exist, it is not possible with available data to separate the effects of smoke balance factors and other factors.

In spite of the confounding of effects, a regression model including differences in free nicotine, advertising expenditures, and SCM of the 100's with difference in SCM as the dependent variable resulted in 87% of the variability explained in the case of WINSTON 85's vs. Marlboro 85's and 95% of the variability explained in the case of SALEM 85's vs. Kool 85's. In both cases, free nicotine contributed significantly to the model over and above the other factors.


 Jerry S. Moore
JSM:el
Attachment

60132 7014

68

52614 7637

12

HUMPHREY

in

produced by R.K.T.C.

July 18, 1973

RJR

SECRET

Mr. E. A. Rievin, Jr.
Marketing Research

No. 15 By _____

This is the file and history on the idea we had for a cigarette with full nicotine satisfaction but sharply reduced "tar". Because it relates to our recently enhanced awareness of the role of nicotine pH, etc in selling cigarettes, it may be of interest to you at this time.

Since the memo was written, we have seen the emergence of the various "light" variants, and they do go in the direction we had suggested -- but not all of the way. The data needs updating, and also could stand a more rigorous statistical treatment.

We made a prototype, simply to demonstrate that it could be done. I stayed on a carton for a week and found them surprisingly good -- and that is a big switch for CAMEL smokers! As the data show, they delivered 13 mg. "tar", and 1.2 mg. nicotine at average maximum pH of 6.6. These were prototypes only and could of course be developed and perfected. With what we know now, it is at least theoretically possible to get even higher nicotine satisfaction from this type of system by increasing smoke -- hence the Tar/Nicotine Ratio could possibly be reduced below 10.

As I indicated to you, this notion had been looked at by Management -- apparently with some interest -- but got lost in the shuffle when Marketing was in a state of transition. I still think the approach has merit and should be pursued. Under the existing rules of the game, we (Research) are not in the prototype or product business, so what I am trying to sell here is really an idea.

Hope this may be of use to you as we look at the best ways to exploit nicotine satisfaction.

Boyd
Claude E. Ziegler, Jr.

Attachments

DEPOSITION
EXHIBIT
12

TRIAL EXHIBIT
12,367

50079 0704

52614 7639

152

13

HUMPHREY

in

produced by RJRT

NEW PRODUCT/MERCHANDISING DIRECTIONS

A THREE YEAR ACTION PLAN

AUGUST 19, 1976

RJR
SECRET

42-225 By CDW

DEPOSITION
EXHIBIT

13

50037 1010

52614 7641

produced by RJRTCO

in

BURTON
HUMPHREY

NEW PRODUCT/MERCHANDISING DIRECTIONS

A THREE YEAR ACTION PLAN

AUGUST 19, 1976

50637 1011
52614 7642

BEST
COPY

AGENDA

PRESENTER	TOPIC	PAGE(S)
C. W. FITZGERALD	I. WHERE HAVE WE BEEN/WHAT HAVE WE ACCOMPLISHED?	4-16
"	II. TOMORROW'S CIGARETTE MARKET	17-26
"	III. CONSUMER NEEDS <i>with 1/27/75</i>	27-28
"	IV. TOMORROW'S CORPORATE NEEDS/ NEW PRODUCT DEVELOPMENT OBJECTIVES <i>1/28/75</i>	29-41
DR. M. SENKOS	V. NEW PRODUCT DEVELOPMENT DIRECTIONS/POSITIONINGS	42-57
DR. A. LAURENE	VI. PRIORITIES/NEXT-STEPS/TEST MARKET-DATES	58
<i>D.E. Dr. G. W.</i> C. W. FITZGERALD	VII. PHARMACOLOGICAL EFFECTS OF NICOTINE AND TOBACCO SMOKING	59-86
	VIII. VARIABLES AFFECTING SMOKING SATISFACTION	87-94
	IX. MRD/R&D CONSUMER TESTING PROGRAM	95-100
F. M. KECSETI	X. INNOVATIVE SUPPORTING PROGRAMS	101-147

Produced by RJRTCC

in

BURTON

produced by RJRTC

THE PURPOSE OF THIS MEETING IS TO RECOMMEND A THREE-YEAR ACTION PLAN FOR NEW PRODUCT DEVELOPMENT DIRECTIONS AND THE RELATED INNOVATIVE SUPPORTING PROGRAMS.

THIS PRESENTATION IS AN EXTENSION OF REVIEWS WE HAVE HAD WITH MANAGEMENT IN APRIL, JUNE, AND JULY OF THIS YEAR. IN THESE EARLIER MEETINGS, WE HAVE BEEN SETTING THE DIRECTION OUR NEW BRAND PROGRAM WILL TAKE OVER THE NEXT FEW YEARS. A MAJOR PART OF THAT DIRECTION HAS BEEN THE FINALIZATION OF AND COMMITMENT TO THE REAL CONCEPT.

THE PRESENTATION YOU WILL SEE TODAY IS BOTH INFORMATIONAL AND ACTION ORIENTED AND LAYS OUT THE SPECIFIC DIRECTIONS FOR OUR COMPANY IN THE AREAS OF BOTH NEW PRODUCT DEVELOPMENT AND SUPPORTING PROGRAMS.

HUBBARD

CHART #1 - AGENDA

FIRST, WE WILL LOOK AT WHERE WE HAVE BEEN AND WHAT WE HAVE ACCOMPLISHED WITH NEW BRANDS SINCE MR. HOBBS FORMALLY STRUCTURED THIS AREA IN LATE 1974.

THEN WE WILL LOOK AT TOMORROW'S CIGARETTE MARKET IN TERMS OF 'TAR' LEVELS.

WE WILL PROJECT TOMORROW'S CIGARETTE NEEDS IN TERMS OF BOTH THE CONSUMER AND OUR COMPANY AND SET OUR OBJECTIVES FOR THE NEXT THREE YEARS. NEXT, WE WILL OUTLINE OUR NEW PRODUCT DEVELOPMENT DIRECTIONS AND POSITIONINGS IN THE MARKETPLACE AND COVER PRIORITIES, NEXT STEPS, AND ANTICIPATED TEST MARKET DATES.

DR. SENKUS WILL SPEAK TO THE PHARMACOLOGICAL EFFECTS OF NICOTINE AND SMOKING -- THE STATE OF ITS KNOWLEDGE TODAY. IT IS MORE IMPORTANT THAN EVER BEFORE THAT WE UNDERSTAND AND APPLY THIS KNOWLEDGE TO OUR DEVELOPMENT OF SATISFYING LOWER 'TAR' CIGARETTES.

MRD AND R&D HAVE BEEN WORKING ON A SOPHISTICATED CONSUMER PRODUCT TESTING PROGRAM TO HELP US ENSURE THAT WE SELECT THE BEST BLEND ALTERNATIVE FOR OUR BRANDS TO OPTIMIZE PHYSIOLOGICAL SATISFACTION. WHILE YOU ARE FAMILIAR WITH THIS PROGRAM, WE HAVE ASKED DR. LAURENE TO SPEAK TO THE VARIABLES AFFECTING SMOKING SATISFACTION AND I WILL QUICKLY OUTLINE THE OBJECTIVES AND THE APPLICATION OF THIS STATISTICAL TECHNIQUE FOR PRODUCT EVALUATION.

THEN FRANK KECSETI AND DEBBIE WESTRICK WILL REVIEW WITH YOU OUR PLANS FOR CONTINUING THE DEVELOPMENT AND REFINEMENT OF INNOVATIVE SUPPORTING PROGRAMS RELATED TO NEW BRANDS. ACTION PLANS WILL BE OUTLINED IN THE PACKAGING, SAMPLING, COUPONING, MERCHANDISING, AND TRADEMARK AREAS.

1. WHERE HAVE WE BEEN/WHAT
HAVE WE ACCOMPLISHED?

52614 7646

50037 1015

BURTON
HUMPHREY

in

produced by KJRTC

CHART #2 - WHERE HAVE WE BEEN?

LET US BEGIN WITH THE POINT OF REFERENCE: WHERE HAVE WE BEEN? -- BECAUSE IT HAS A BEARING ON WHERE WE GO NEXT.

BACK IN 1974, OUR CHALLENGE WAS QUICKLY TO CORRECT COMPANY LINE WEAKNESSES - DEMOGRAPHICALLY, PSYCHOGRAPHICALLY, AND GEOGRAPHICALLY - SPECIFICALLY --

- YOUNG ADULTS UNDER 35.
- "NEW VALUES" LIFESTYLE.
- UPSCALE, MORE SOPHISTICATED SMOKERS.
- LARGE METRO MARKETS.

produced by RJRTC

in

BURTON
HUNTLEY

BEST
COPY

CHART #2

WHERE HAVE WE BEEN?

QUICKLY CORRECTING COMPANY LINE WEAKNESSES

YOUNG ADULTS UNDER 35

"NEW VALUES" LIFESTYLE

UPSCALE MORE SOPHISTICATED SMOKERS

LARGE METRO MARKETS

CHART #3 - "RIFLE SHOT" STRATEGY

WE UTILIZED A "RIFLE SHOT" STRATEGY, THAT IS, SPECIAL APPEALS AIMED AT SPECIAL MARKET SEGMENTS. WE PLAYED TO THE SPECIAL NEEDS OF SMOKERS CREATED BY ECONOMIC, LIFESTYLE, AND CATEGORY GROWTH TRENDS, NAMELY WITH

- MORE: STYLE AND VALUE

- NOW: LOWEST TAR AND SOPHISTICATION

OUR EFFORTS WERE HIGHLY TARGETED IN TERMS OF ADVERTISING COPY, MEDIA, POINT-OF-SALE, AND CONSUMER SAMPLING. WITH ...

- MORE: AGAINST THE MARLBORO AND KOOL FRANCHISES.

- NOW: AGAINST THE HIGHLY CONCERNED URBANE SMOKER.

Produced by RJRC

in

HURTON

CHART #3

- UTILIZED A "RIFLE SHOT" STRATEGY, THAT IS, SPECIAL APPEALS AIMED AT SPECIAL MARKET SEGMENTS.

-- MORE: STYLE AND VALUE.

-- NOW: LOWEST TAR AND SOPHISTICATION.

- HIGHLY TARGETED: ADVERTISING COPY, MEDIA, POINT-OF-SALE, AND CONSUMER SAMPLING.

-- MORE: AGAINST MARLBORO AND KOOL FRANCHISES.

-- NOW: AGAINST HIGHLY CONCERNED URBANE SMOKERS.

produced by RJR TC

in

HURTIONER

CHART #4 - WHAT HAVE WE ACCOMPLISHED?
MORE VS. RJR COMPANY LINE

THIS CHART SHOWS THE % DISTRIBUTION OF SMOKERS FOR MORE VERSUS THE RJR COMPANY LINE - BY AGE, SEX, INCOME, ETC. FOR EXAMPLE, THE RESULTS OF A COMPREHENSIVE CONSUMER STUDY RECENTLY COMPLETED SHOWS 43% OF MORE'S FRANCHISE IS UNDER 35, 57% OVER. YOU CAN SEE THE SAME DATA FOR THE COMPANY LINE IN THE SECOND COLUMN. THE THIRD COLUMN IS AN INDEX WITH RJR COMPANY LINE = 100.

LOOKING AT THESE INDICES, WE CAN SEE WHERE WE IMPROVED THE COMPANY DEMOGRAPHICALLY - YOUNG ADULTS, UPPER-INCOMES, PROFESSIONALS AND WHITE COLLARS, THE UPSCALE OCCUPATIONS, THE LARGER CITIES. THE BLACK MARKET IS NOT SHOWN HERE BUT WE KNOW FROM OUR HIGH SHARES IN THE BLACK AREAS, MORE HURT KOOL BADET.

WHILE MORE BROUGHT IN AN ABSOLUTE NET GAIN IN MALE SMOKERS TO THE FRANCHISE, ITS FRANCHISE IS SKEWED FEMALE. I PERSONALLY THINK THAT OVER THE LONG RUN AS FASHION BECOMES AN EVEN BIGGER FACTOR AMONG YOUNG MALE ADULTS, THE STYLISH MORE WILL GAIN AMONG MALES. IN TERMS OF VOLUME RATHER THAN SMOKERS, I SUSPECT IT IS ALREADY HEAVIER THAN SHOWN HERE.

CHART #4

MORE VS. RJR COMPANY LINE

	<u>% DISTRIBUTION OF SMOKERS</u>		<u>INDEX (RJR=100)</u>
	<u>MORE</u>	<u>RJR Co. LINE</u>	
<u>AGE</u>			
UNDER 35	43	41	105
35+	57	59	97
<u>SEX</u>			
MALE	37	58	64
FEMALE	63	42	150
<u>INCOME (ANNUAL)</u>			
UNDER \$10M	20	38	53
\$10M-\$25M	58	53	109
\$25M+	22	9	244
<u>OCCUPATION</u>			
PROFESSIONAL/W. C.	65	40	163
BLUE COLLAR/FARMERS	35	60	58
<u>CITY SIZE</u>			
2 MILLION +	35	28	125
500M-2MM	26	25	104
UNDER 500M	39	47	83

**CHART #5 - WHAT HAVE WE ACCOMPLISHED?
NOW Vs. RJR COMPANY LINE**

WITH REGARD TO NOW, AS EXPECTED, IT SKEWED OLDER, TOWARD WOMEN, AND THE UPSCALE OCCUPATION/HIGHER INCOME GROUPS AND METRO AREAS, FOLLOWING THE TRADITIONS OF THE HI-FI CATEGORY. AS THIS CHART INDICATES, NOW HAS IMPROVED THE COMPANY'S POSITION IN ALL OF THESE DEMOGRAPHIC GROUPS.

HOWEVER, IT IS OF SIGNIFICANCE TO NOTE THAT NOW'S QUALITY IMAGE HAS WORKED DECIDEDLY IN THE BRANDS FAVOR VERSUS THE OTHER SUPER 'NOW-TAR' BRAND - CARLTON - NOW HAS MORE OF A QUALITY IMAGE AND A BROADER BASE - MORE MEN IN THE FRANCHISE THAN CARLTON AND ALSO MORE YOUNG SMOKERS - BOTH MEN AND WOMEN 25+. THIS GIVES US A SOLID FOUNDATION ON WHICH TO BUILD.

produced by RJRTC

in
BUREAU
HUMPHREY

CHART #5

NOW VS. RJR COMPANY LINE

	% DISTRIBUTION OF SMOKERS		INDEX (RJR=100)
	NOW	RJR	
AGE			
UNDER 35	36	41	88
35+	64	59	108
SEX			
MALE	35	58	60
FEMALE	65	42	155
INCOME (ANNUAL)			
UNDER \$10M	28	38	74
\$10M-\$25M	53	53	100
\$25M	19	9	211
OCCUPATION			
PROFESSIONAL/W. C.	61	40	153
BLUE COLLAR/FARMERS	39	60	65
CITY SIZE			
2 MILLION +	44	28	157
500M-2MM	24	25	96
UNDER 500M	32	47	68

CHART #6 - NET CONTRIBUTION OF MORE AND NOW
TO OUR MAJOR METRO MARKET SHARES

THE NET CONTRIBUTION OF MORE AND NOW TO OUR MAJOR METRO
MARKET SHARES CAN BE SEEN BETTER IN THIS CHART DEVELOPED
BY MRD. THE PERIOD IS 1974 VERSUS MRD'S CURRENT ESTIMATE.

IT IS DRAMATIC. FOR EXAMPLE, BASED ON DATA FOR ^{August} MAY QUARTER
FOR RJR AND MID-AUGUST FOR NOW, IN NEW YORK, FOR YEARS A
PROBLEM MARKET, MORE AND NOW COMBINED HAVE CONTRIBUTED $1.1^{1.2}$
PERCENTAGE POINTS TO OUR 1.8 GAIN IN THE TOTAL COMPANY LINE.

IN L.A., IT IS $1.9^{2.1}$ OUT OF $2.8^{3.0}$, IN CHICAGO $1.0^{1.3}$ OUT OF $1.6^{1.9}$,
IN FRISCO $1.6^{2.5}$ OUT OF $3.2^{4.1}$, AND IN DETROIT $1.2^{1.3}$ OUT OF $2.1^{2.9}$.

Handwritten notes:
This would have been a big gain...
...9.1

Produced by RJR/C

BURTON

CHART #6

NET CONTRIBUTION OF MORE AND NOW
TO OUR MAJOR METRO MARKET SHARES

	SHARE OF MARKET (%)		SHARE	
	1974	CURRENT EST.	PT. DIFF.	
<u>NEW YORK</u>				
TOTAL RJR	22.3	24.1 ^{24.1}	+1.8	+1.8
MORE/NOW (NET)	-	1.1 1.2	(+1.1)	+1.2
<u>LOS ANGELES</u>				
TOTAL RJR	24.0	26.8 27.0	+2.8	+3.0
MORE/NOW (NET)	-	2.8 2.1	(+1.9)	+2.1
<u>CHICAGO</u>				
TOTAL RJR	26.3 26.4	28.0 25.9	+1.6	+1.6
MORE/NOW (NET)	-	1.8 .9	(+1.0)	+1.9
<u>SAN FRANCISCO</u>				
TOTAL RJR	25.7	28.9 28.5	+3.2	+2.8
MORE/NOW (NET)	-	2.6 2.0	(+1.6)	+2.0
<u>DETROIT</u>				
TOTAL RJR	24.3	26.4 26.2	+2.1	+1.9
MORE/NOW (NET)	-	2.2 1.3	(+1.2)	+1.3

* 3. This table definition which is not significantly different from Metro. This sample is available because of the loss of a major job in April '76. This doesn't change the More/Now conclusion, however.

CHART #7 - NET CONTRIBUTION OF MORE AND NOW
TO TOTAL U. S. SHARE

FOR THE TOTAL U. S., MRD ESTIMATES MORE AND NOW COMBINED HAVE CONTRIBUTED A NET 1.1 PERCENTAGE POINTS GAIN TO THE COMPANY LINE GAIN OF $1\frac{1}{4}$ PERCENTAGE POINTS. THIS IS NOT TO SAY WINSTON AND SALEM LIGHTS, VANTAGE, AND CAMEL FILTER DID NOT CONTRIBUTE SIGNIFICANTLY TO THE COMPANY'S GAIN IN SHARE. THEY DID - BUT THEY WERE ALREADY A PART OF OUR ESTABLISHED BRAND MIX - AND WORKING AGAINST ESTABLISHED BRAND LOSSES SUCH AS CAMEL REGULAR.

MAYBE A BETTER WAY TO SAY IT IS THAT WITHOUT THE NEW BRANDS, MORE AND NOW, THE COMPANY'S SHARE WOULD BE 1.1 PERCENTAGE POINTS LESS.

WE ARE PLEASED WITH OUR NEW BRANDS' PERFORMANCES IN THE UP-SCALE AND RETRO MARKETS. BUT THERE CAN BE NO REST FOR THE INDUSTRY LEADER OF THE PAST 15 YEARS WHO WANTS TO CONTINUE TO BE THE INDUSTRY LEADER.

MUCH IS STILL LEFT TO BE DONE AMONG THE YOUNG ADULTS, MARLBORO'S AND KOOL'S STRONGHOLDS AND TOMORROW'S CIGARETTE MARKET.

WE BELIEVE THAT WITH THE FAST CHANGING CONSUMER NEEDS AND PROPER PLANNING AND TIMING, WE CAN CONTINUE TO DOMINATE TOMORROW'S CIGARETTE MARKET.

produced by RJRTCC

in
HIBURTON

NET CONTRIBUTION OF
MORE AND NOW
TO TOTAL U. S. SHARE

	<u>SHARE OF MARKET (%)</u>		<u>SHARE</u>	
	<u>1974</u>	<u>CURRENT EST.</u> <u>(MAY-QTR.)</u> <u>1974</u>	<u>PT. DIFF.</u>	
<u>TOTAL U. S.</u>				
TOTAL RJR	32.0	33.4	1.4	1.4
MORE/NOW (NET)	-	1.1	+1.1	

CHART #8 - ON-GOING PROGRAMS

1976 WAS A YEAR IN WHICH WE INITIATED SEVERAL NEW "BEHIND THE SCENES" PROGRAMS TO AID IN THE SUCCESSFUL DEVELOPMENT OF NEW BRANDS FOR OUR COMPANY. WHILE I WILL NOT DWELL ON THESE, WE WANTED TO ACKNOWLEDGE THE SIGNIFICANT CONTRIBUTIONS OF THESE PROGRAMS AND WE PLAN TO CONTINUE TO TAP THESE RESOURCES IN FUTURE YEARS AS WE SEEK TO OPTIMIZE THE EFFECTIVENESS OF THE OVERALL MARKETING PLANNING AND DEVELOPMENT FUNCTION.

THESE PROGRAMS INCLUDE THE NEW PRODUCTS MANAGEMENT COMMITTEE, THE NEW PACKAGING MANAGEMENT COMMITTEE, NEW BRAND IDEA GENERATION VIA AGENCY INPUT, A STUDY OF INTERNATIONAL MARKETS, AND REFINEMENT OF RESEARCH TECHNIQUES ENCOMPASSING BOTH CONCEPT TESTING AND BLEND EVALUATION VIA THE CONTROLLED PRODUCT CHANGE TECHNIQUE WHICH WILL BE SPOKEN TO LATER IN THE PRESENTATION.

produced by RJRTCC

in BURTON HUBBARD

produced by RJRTC

in

HURTON EX

ON-GOING PROGRAMS

FOR NEW BRAND DEVELOPMENT

NEW PRODUCTS MANAGEMENT COMMITTEE

NEW PACKAGING MANAGEMENT COMMITTEE

NEW BRAND IDEA GENERATION

STUDY OF INTERNATIONAL MARKETS

REFINEMENT OF RESEARCH TECHNIQUES

Produced by RJRC
in
BURTON
HOMER

CHART #4 - SUM VS. "TAR" LEVEL
(GREATER THAN 16 MG)

LET'S PROJECT TOMORROW'S CIGARETTE MARKETPLACE AND CONSUMER NEEDS. TO GET A BETTER FEEL OF WHERE IT IS GOING, LET'S SEE WHERE IT HAS BEEN.

THIS CHART SHOWS SHARE OF MARKET BY 10 YEAR INTERVALS, FIRST FOR THE NON-FILTER CATEGORY AND THEN FOR THE NORMAL FLAVOR FILTER CATEGORY, THAT IS, THOSE CIGARETTES WITH 16 MG 'TAR' OR HIGHER.

AS YOU KNOW, NON-FILTERS WITH THE HIGHEST 'TAR' NUMBERS HAVE BEEN DECLINING STEADILY FROM VIRTUALLY 100% OF THE MARKET IN 1950, TO 80% IN 1955, AND TO ONLY 13% OF THE MARKET TODAY. WHAT YOU MAY NOT REALIZE IS HOW FAST THE MARKET HAS CHANGED. ONLY 10 YEARS AGO, NON-FILTERS HAD 35% OF THE MARKET, SIGNIFICANTLY LARGER THAN THE MENTHOL MARKET OF TODAY.

INCREASING HEALTH CONCERNS WITH CIGARETTES WAS THE PRIMARY REASON FOR THE DECLINE OF NON-FILTERS AND THE BIRTH OF THE NORMAL FLAVOR FILTERS. THE WINSTONS AND MARLBOROS, GREATLY HELPED BY THE 'TAR' DERBY IN THE LATE 50'S.

BUT, IN THE LAST 10 YEARS, THIS GROWTH HAS SLOWED DOWN CONSIDERABLY, GAINING ONLY 5% OF THE MARKET FROM 1965 TO 1975 VS. MORE THAN A THREEFOLD INCREASE IN THE PREVIOUS 10 YEAR PERIOD FROM 1955 TO 1965. IN THE LAST 10 YEARS, THE KING SIZE VERSIONS IN THIS 16 MG 'TAR' AND HIGHER CATEGORY HAVE REMAINED FLAT IN SHARE WITH THE 100MM'S PROVIDING THE ONLY GROWTH.

SHARE OF
MARKET

100%

90

80

70

60

50

40

30

20

10

0

1955

1965

1975

NON-FILTER

1955

1965

1975

FILTER CIGARETTES WITH TAR
LEVELS GREATER THAN 16 MG.

SOURCE: MRD SOM ESTIMATES

READER'S DIGEST, FTC TAR LEVELS

produced by RJRTTC

SHARE OF MARKET VERSUS TAR LEVEL

in

BURTON

HUMPHREY

CHART #9

-18-

50037 16

52614 7663

**CHART #10 - SOM Vs. "TAR" LEVELS
(12 MG OR LESS)**

**WHAT HAS BEEN SAPPING THE GROWTH OF A CATEGORY THAT FOR 20
YEARS HELD THE LIMELIGHT?**

**THE MOST IMMEDIATE AND MAIN SOURCE OF THIS DRAIN-OFF HAS BEEN
THE SPINOFFS - THE LIGHTS AND THE MILDS VERSION OF THE IN-
DUSTRY'S "BIG DADDY" BRANDS - THOSE IN THE 13-16 TPM RANGE.
THE SO-CALLED MIDDLE FLAVOR CATEGORY HAS GROWN FROM 4% SOM
TO 15% SOM IN 10 YEARS.**

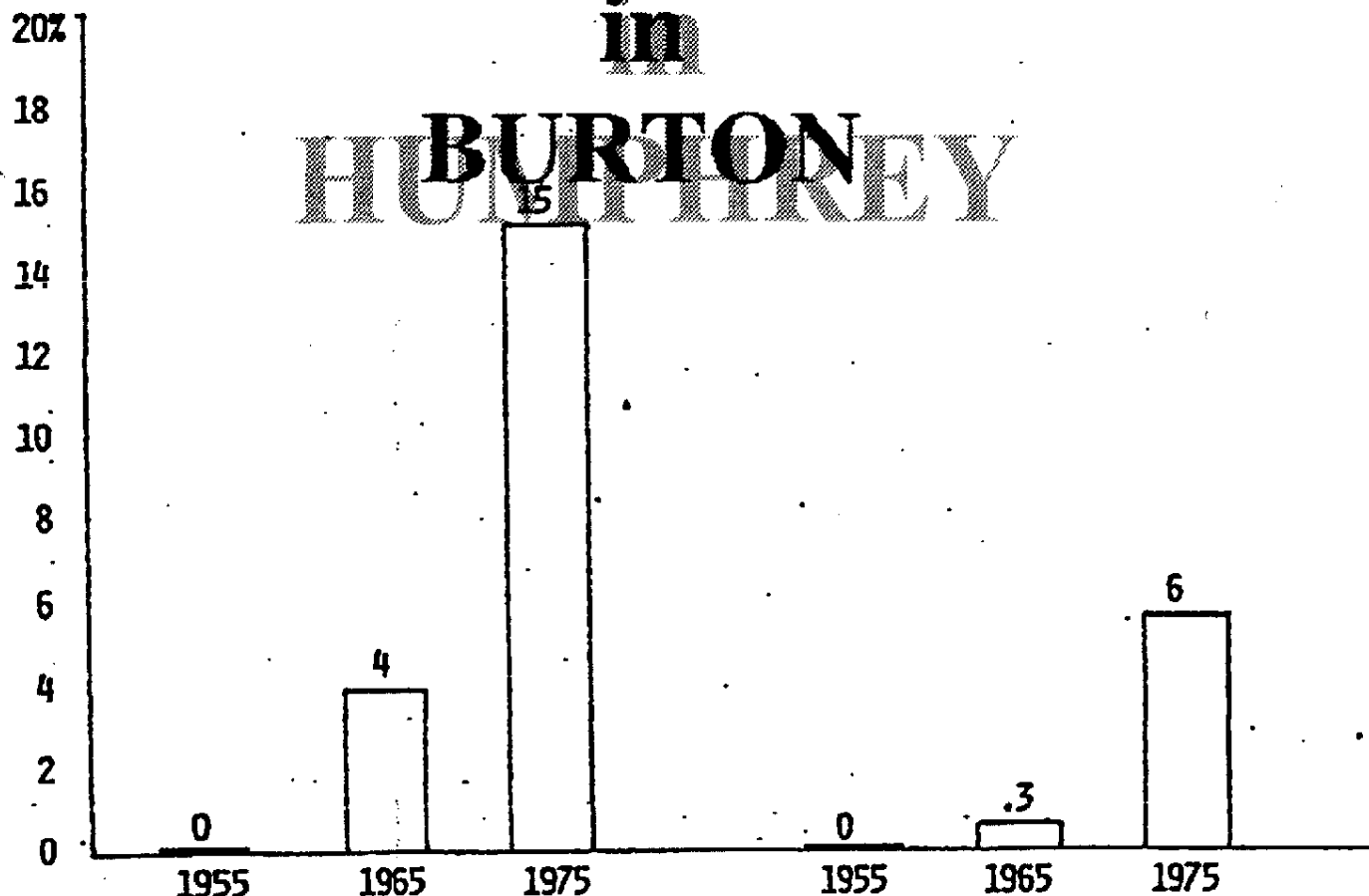
**I BELIEVE THE MIDDLE-FLAVOR CATEGORY WILL BE AN IMPORTANT,
BUT TEMPORARY STOP-OVER POINT FOR THE BUSINESS. A 100MM LIGHTS
EXTENSION ^{WAS INTRODUCED IN 1976} FOR SALE ~~IS PLANNED FOR THE 4TH QUARTER AND~~
CONSIDERATION IS BEING GIVEN TO A WINSTON 100MM LIGHTS EXTENSION
FROM EARLY 1977.**

**IN THE LONG-RUN SCHEME OF THINGS, THESE ARE SHORT TERM COMPANY
ADJUSTMENTS TO THE MARKETPLACE. WITH THEIR FIXED IMAGES TO
THE CONSUMER THOUGH, THEY CANNOT REPRESENT FULLY WHAT TOMORROW'S
CONSUMERS NEED AND WANT.**

**ANOTHER DRAIN OFF NORMAL FLAVOR FILTERS, "DRIP BY DRIP" IS THE
LOWEST FLAVOR CATEGORY OR WHAT WE CALL THE 2-12 'TAR' RANGE.
WITH THE ADDITION OF NOW, MERIT, AND KENT GOLDEN LIGHTS IN 1976,
THIS CATEGORY WILL RISE TO A 8-9 SHARE OF MARKET.**

**IT IS THIS 2-12 'TAR' RANGE THAT WE BELIEVE REPRESENTS TOMORROW'S
MARKET - I.E., WHERE THE CIGARETTE BUSINESS WILL GROW THE MOST
IN 1980'S AND 1990'S.**

SHARE OF
MARKET



FILTER CIGARETTES WITH "TAR"
LEVELS OF 13-16MG.

FILTER CIGARETTES WITH "TAR" LEVELS
OF 12MG. OR LESS

SOURCE: MRD SOM ESTIMATES

READER'S DIGEST, FTC "TAR" LEVELS

CHART #10

CHART #11 - REASONS FOR 2-12 'TAR' RANGE

WE BELIEVE THIS FOR THREE MAJOR REASONS.

**produced by RJR TC
in
BURTON
HUMPHREY**

REASONS FOR 2-12 TAR RANGE

BEING TOMORROW'S GROWTH AREA

1980's - 1990

LONG TERM DOWN TREND IN AVERAGE TAR PER
CIGARETTE.

INTIMIDATING NEW FEDERAL TAXES ON CIGARETTES
-- GRADUATED ACCORDING TO 'TAR' AND NICOTINE
CONTENT.

THREAT OF CARBON MONOXIDE CONTENT IN A CIGA-
RETTE BROUGHT TO PUBLIC'S ATTENTION.

produced by RJR TC

in

HUBERTON

CHART #12 - AVERAGE "TAR" LEVEL PER CIGARETTE

BEST
COPY

FIRST, THE TREND SAYS SO. THIS CHART SHOWS THE AVERAGE 'TAR' LEVEL PER CIGARETTE - WEIGHTED BY VOLUME. BY 1975, THIS WAS DOWN TO 17.4 MG 'TAR.' WHILE THIS HAS BEEN RELATIVELY UNCHANGED OVER THE PAST 2-3 YEARS, WE BELIEVE HISTORY MAY BE ABOUT TO REPEAT ITSELF.

IN THE LATE 1950'S, THE GOVERNMENT AND THE READER'S DIGEST ENDORSED, AND THE SMALLER COMPANIES, LIGGETT AND B&W, HEAVILY ADVERTISED LOW 'TAR' BRANDS, AND YOU SEE WHAT HAPPENED - ABOUT A THIRD REDUCTION OVER FIVE YEARS IN THE AVERAGE 'TAR' PER CIGARETTE - FROM 1955 TO 1960.

TODAY, THE GOVERNMENT, THE ANTI-SMOKING FORCES, AND ALL THE TOBACCO COMPANIES ARE SUPPORTING A 'TAR' DERBY. SIMPLY PROJECTING THE 1955 TO 1960 SITUATION, A FIVE-YEAR EXPERIENCE, OVER THE NEXT TEN YEARS PUTS THE AVERAGE 'TAR' PER CIGARETTE AT 11 IN 1985. THIS MAY BE CONSERVATIVE, OR IT MAY BE TOO LOW; HOWEVER, THE POINT IS THAT THE DOWNWARD TREND IS CLEAR. GIVEN WHAT WE KNOW ABOUT THE MARKETPLACE. IT IS THE DIRECTION OF THIS TREND VS. A PRECISE 'TAR' NUMBER THAT IMPACTS ON OUR RECOMMENDED DIRECTION.

THE SECOND REASON FOR THIS ACCELERATED 'TAR' REDUCTION IN CIGARETTES IS THE INTIMIDATING NEW FEDERAL TAXES ON CIGARETTES, GRADUATED ACCORDING TO 'TAR' AND NICOTINE CONTENT OF A BRAND. IF PASSED AS PROPOSED, A PACKAGE OF WINSTON KING WOULD INCUR AN ADDITIONAL 30¢ IN FEDERAL TAXES BY 1980.

THE THIRD REASON IS THE THREAT OF THE CARBON MONOXIDE CONTENT IN A CIGARETTE BEING BROUGHT TO THE PUBLIC'S ATTENTION. THIS IS THE NEXT BATTLE-FRONT FOR THE ANTI'S. THE FTC HAS ALREADY STARTED DEVELOPING A MEASUREMENT METHOD FOR CO AND SHOULD HAVE IT READY IN TWO YEARS.

TO DATE, THE ONLY PRACTICAL WAY WE HAVE TO REDUCE CO IS THROUGH AIR DILUTION AND THIS, LIKEWISE, RESULTS IN LOWER 'TAR'. THUS, LOWER 'TAR' CIGARETTES HEDGE ALSO AGAINST A CO DERBY AS WELL AS A 'TAR' DERBY.

- TAx LEVELS, FTC REPORT
- SHARE LEVELS, RPD ESTIMATES
- TAx LEVELS, READER'S DIGEST
- SHARE LEVELS, MOORE'S ESTIMATES

1956-1975

SOURCE: 1950 - 1965

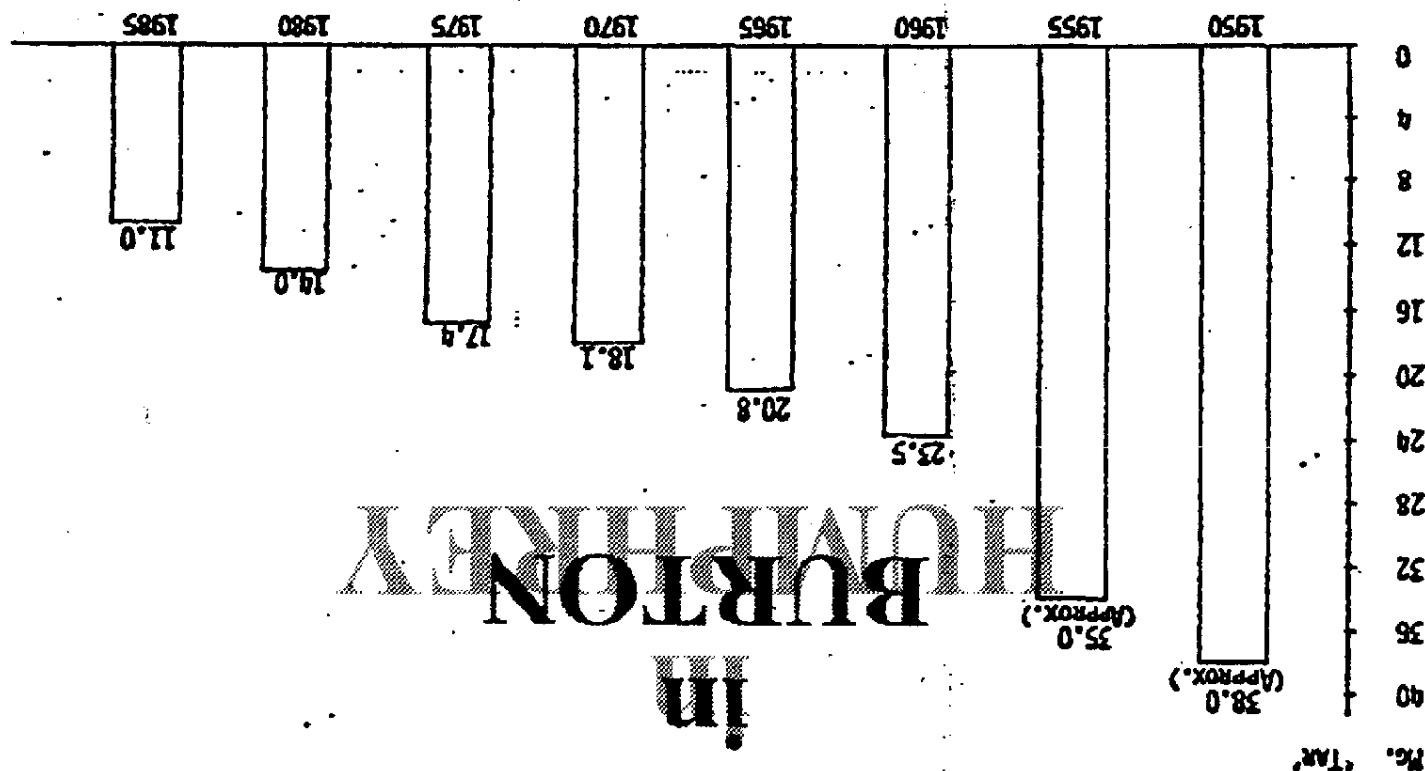


CHART #12

produced by RJRTCC

IN SUMMARY, THESE COMBINED FORCES, THE 'TAR' DERBY, THE THREAT OF INCREASED FEDERAL TAXES, AND CO PUBLICITY WILL SHIFT TOMORROW'S GROWTH OPPORTUNITIES FOR THE CIGARETTE BUSINESS TO THE 12 'TAR' AND UNDER LEVEL.

CHART #13 - HISTORICAL AND PROJECTED GROWTH AREAS

YOU MIGHT LOOK AT IT THIS WAY. IN THE 1940'S AND 1950'S, NON-FILTERS WITH 'TAR' IN THE HIGH 20'S AND 30'S DOMINATED THE MARKET, IN THE 1960'S AND 1970'S, DOMINATION WAS IN THE NORMAL FLAVOR FILTER CIGARETTES WITH 'TAR' LEVELS IN THE LOW 20'S, AND IN THE 1980'S AND 1990'S, WE BELIEVE THE DOMINANT GROWTH BRANDS WILL BE IN THE 12 AND UNDER 'TAR' LEVEL.

THAT'S THE WAY WE SEE TOMORROW'S CIGARETTE MARKET SHAPING UP IN TERMS OF 'TAR' LEVELS.

produced by RJRTC

in

HISTORICAL AND PROJECTED GROWTH AREAS

BURTON HUMPHREY

CHART #13

PERIOD:	<u>1940's - 1950's</u>	<u>1960's - 1970's</u>	<u>1980's - 1990's</u>
TYPE:	NON FILTERS	NORMAL FILTERS	HI-FILTRATION
'TAR' AREA:	HIGH 20's & 30's	LOW 20's & TEEN'S	12 AND UNDER

Produced by BURTON
in
BURTON
HOMERNEY

CHART #24 - TOMORROW'S CONSUMER NEEDS FOR CIGARETTES

THIS IS HOW WE SEE TOMORROW'S CONSUMER NEEDS FOR CIGARETTES. TWO TYPES - NEW AND TRADITIONAL.

FOR EXAMPLE, IN THE NEW AND SPECIAL NEEDS AREAS, THERE IS STYLE AND VALUE WHICH WE MET WITH MORE, EXTREME HEALTH CONCERNS WHICH WE ARE MEETING WITH NOW, EVEN SOCIAL NEEDS WHICH WE HOPE TO MEET WITH CIGARETTES, FOR EXAMPLE, THAT REDUCE TOBACCO BREATH.

THEN, THERE ARE THE TRADITIONAL NEEDS WHICH FORM THE VERY BASIS FOR THE CIGARETTE INDUSTRY'S EXISTENCE.

THESE ARE PRIMARILY PHYSIOLOGICAL RESPONSES - THE PRIMARY REASON FOR PEOPLE SMOKING. I REFER TO NICOTINE. DR. SENKUS WILL SAY MORE ABOUT THIS SHORTLY. AND, AS MARKETERS, WE CANNOT LOSE SIGHT OF THE SECONDARY TRADITIONAL NEEDS OF CONSUMERS - TOBACCO AND MENTHOL TASTE AND SMELL PLEASURES: SOCIAL SYMBOLISM, VIGILANCE, STATUS, ETC. WHICH IS DEPICTED BY APPROPRIATE ADVERTISING.

MORE AND NOW ARE OUR RIFLE SHOTS TO MEET THE NEW AND SPECIAL NEEDS OF CONSUMERS, WHAT WILL BE OUR SHOTGUN BLASTS TO MEET THESE BROADER TRADITIONAL NEEDS?

CAMEL WAS OUR GROWTH AND HIGH PROFIT BRAND THAT MET THESE TRADITIONAL NEEDS OF SMOKERS IN THE 20's, 30's, AND 40's, IF WINSTON AND SALEM WERE OUR GROWTH AND HIGH PROFIT BRANDS THAT MET THESE TRADITIONAL NEEDS IN THE 50's AND 60's, WHAT WILL BE OUR GROWTH AND HIGH PROFIT BRANDS THAT WILL DO THIS IN THE 80's AND 90's?

BASED ON WHAT WE HAVE ACCOMPLISHED IN OUR NEW BRAND PROGRAM THUS FAR, WHAT STILL NEEDS TO BE ACCOMPLISHED, AND THE CHANGING CONSUMER NEEDS IN TOMORROW'S CIGARETTE MARKET, WE HAVE PAUSED, REFLECTED, AND ADJUSTED OUR DEVELOPMENT DIRECTIONS ACCORDINGLY.

TOMORROW'S CONSUMER NEEDS FOR CIGARETTES

• SPECIAL NEEDS - E.G.,

- STYLE AND GREATER VALUE (MORE)
- HEALTH CONCERNS (NOW)
- SOCIAL (REDUCED TOBACCO BREATH)

• TRADITIONAL NEEDS

- PRIMARILY THE PHYSIOLOGICAL RESPONSE
- SECONDARILY:
 - TOBACCO/MENTHOL TASTE AND SMELL PLEASURES
 - SOCIAL SYMBOLISM (VIRILITY, STATUS, ETC.)
 - RITUAL OF HANDLING CIGARETTE (LIGHTING UP, PUFFING, ETC.)

produced by RJRTCC

in

BURTON
HUNTLEY

IV. TOMORROW'S CORPORATE NEEDS/
NEW PRODUCT DEVELOPMENT OBJECTIVES

50037 1044

BURTON HUMPHREY

in

produced by RJRTC

CHART #15 - CORPORATE OBJECTIVES

BEFORE I SPEAK TO THE SPECIFIC DEVELOPMENT DIRECTIONS FOR 1976, 1977, AND 1978, LET ME SAY THAT THE OVERALL CRITERIA FOR NEW BRAND DEVELOPMENT WHICH WE HAVE BEEN FOLLOWING ARE STILL VERY APPLICABLE. THESE BASIC GUIDELINES HAVE BEEN THE CORNERSTONE OF OUR NEW BRAND EFFORTS AND I WOULD LIKE TO HIGHLIGHT THEM BEFORE MOVING TO THE SPECIFICS AS IT IS WITHIN THIS FRAMEWORK THAT OUR DEVELOPMENT DIRECTIONS HAVE BEEN TARGETED.

Produced by RJR TC

in

HURTON

produced by RJRTC C

in

BURTON

HUMPHREY

CHART #15

CORPORATE OBJECTIVES

NEW BRAND DEVELOPMENT

produced by RJRTCC

in

BURTON
HUNTLEY

HIGH CHANCE OF IMMEDIATE SUCCESS

• UNIQUE PRODUCT DIFFERENCE THAT IS
MEANINGFUL IN FULFILLING A CONSUMER
NEED.

Produced by RJR TC

in

HURTON BY

II. MEET COMPETITIVE WEAKNESS AREAS FOR RJR

YOUNG ADULTS -- UNDER 35

MAJOR METRO MARKET APPEAL

"NEW VALUES" CONSUMER

produced by RJR TC

in

HUBERTON

III. MAXIMIZE NET SHARE CONTRIBUTION TO COMPANY LINE

MINIMUM CANNIBALIZATION OF CURRENT
RJR BRANDS

EXPLOIT GROWTH CATEGORIES [LOW 'TAR' PRODUCTS
(12 MG. OR LESS), 100MM'S, HIGH MENTHOL]

DEVELOP NEW CATEGORIES -- AS WE DID
WITH MORE

produced by RJRTCC

in

BURTON
HUNTLEY

COMPATIBLE WITH CORPORATE/INDUSTRY

POLICY AND OUR COMPANY'S PROFIT GOALS

produced by RJRTCC

in

BURTON
HUNTLEY

V. PROVIDE NEW DIMENSION OF QUALITY IN
PRODUCT, PACKAGING, AND ADVERTISING
IMAGE.

CHART #21 - NEW BRAND SOM GOALS

the building of the new brand will need these objectives

~~IN TURNING TO THE SPECIFICS, WE FIRST SHOULD LOOK AT WHAT~~
 THE COMPANY REQUIRES FROM NEW BRANDS OVER THE NEXT THREE
 YEARS IN TERMS OF NET SHARE CONTRIBUTION. WE MUST
 SUCCESSFULLY INTRODUCE NATIONALLY IN 1977 A NEW BRAND THAT
 GENERATES A .2% NET SHARE. WE NEED TO BUILD ON THAT BASE
 WITH OTHER NEW BRANDS IN ^{in future years to generate} 1978 AND 1979 TO OBTAIN AN
 ADDITIONAL .4% NET SHARE INCREASE IN EACH OF THESE YEARS.

a .1% increase in 1977 should be .1% share in 1979.

produced by RJRTCC

in

BURTON
HUNT

CHART #21

NEW BRAND SOU GOALS

1977 1978 1979

NEW BRAND NET SHARE

1977	1978	1979
2%	4%	4%
1.1	1.1	1.5

CHART #22 - OBJECTIVES FOR NEW PRODUCT DEVELOPMENT EFFORTS

OUR TOP PRIORITY IS TO DEVELOP AND MARKET LOW 'TAR' BRANDS (12 MG. 'TAR' AND UNDER) THAT:

- MAXIMIZE THE PHYSIOLOGICAL SATISFACTION PER PUFF - THE SINGLE MOST IMPORTANT NEED OF SMOKERS.
- HAVE COMPETITIVE SUPERIORITY.
- YIELD HIGHER PROFITABILITY WHICH MEANS CONVENTIONAL FILTERS AND SOFT PACKAGING FOR HIGH SPEED PRODUCTION EFFICIENCIES.
- PROVIDES SIGNIFICANT CARBON MONOXIDE REDUCTION (VS. NORMAL FLAVOR FILTERS).

WITH CONTINUED EMPHASIS AGAINST:

- YOUNG ADULTS WITH NEW OR MORE LIBERAL VALUES
MARLBORO, KOOL (AND ADDITIONALLY MERIT)

BUT, WITH BROADER GEOGRAPHICAL (AND DEMOGRAPHICAL) IMPACT -
I.E., VERY HEAVY MEDIA AND SAMPLING EFFORTS IN THE:

- SMALLER CITIES AS WELL AS LARGE METRO MARKETS
- CHANGES ECONOMICS OF INTRODUCING NEW BRANDS IN PRINT ENVIRONMENT (E.G., WITNESS \$40MM ANNUAL RATE AGAINST MERIT BY PM)

Produced by RJRTTC
in RJRTTC

OBJECTIVES FOR NEW PRODUCT DEVELOPMENT EFFORTS

TOP PRIORITY

- DEVELOP AND MARKET LOW TAR BRANDS (12 MG AND UNDER)

THAT:

- MAXIMIZE THE PHYSIOLOGICAL SATISFACTION
PER PUFF;

- HAVE COMPETITIVE SUPERIORITY;

- YIELD HIGHER PROFITABILITY;

- PROVIDE SIGNIFICANT CARBON MONOXIDE
REDUCTION (VERSUS NFF).

- CONTINUED EMPHASIS AGAINST

- YOUNG ADULTS WITH NEW OR MORE LIBERAL VALUES

- MARLBORO AND KOOL (AND, ADDITIONALLY, MERIT)

- BUT WITH BROADER GEOGRAPHICAL MARKETING IMPACT -

- I.E., VERY HEAVY MEDIA, AND SAMPLING EFFORTS IN THE

- SMALLER CITIES AS WELL AS LARGE METRO MARKETS.

- CHANGES ECONOMICS OF INTRODUCING NEW BRANDS
IN PRINT ENVIRONMENT.

DEVELOP AND MARKET BRANDS THAT MEET THE SPECIAL NEEDS OF
SMOKERS

produced by RJRTCC
in
BURTON
HUNTERLEY

produced by RJRTCC
in
BURTON
HUMPHREY

SECONDARY PRIORITY (LONG TERM)

DEVELOP AND MARKET BRANDS THAT MEET THE
SPECIAL NEEDS OF SMOKERS.

produced by RJRTCC

in

BURTON
HUBBARD

IN ANALYZING OUR OPTIONS FOR ACHIEVING OUR OBJECTIVES FOR NEW BRAND DEVELOPMENT, WE WANTED TO TAKE A LOOK AT THE CONSUMER PERCEPTION OF THE VARIOUS CIGARETTE BRANDS FROM BOTH AN IMAGE AND TASTE STANDPOINT. IN OUR NEW BRAND EFFORTS, WE CERTAINLY MUST BE COGNIZANT OF THE CHANGE TOWARD LOWER 'TAR' NUMBERS, BUT WE SHOULD BE EQUALLY AWARE OF THE FACT THAT THE CONSUMER DEMAND FOR PHYSIOLOGICAL SATISFACTION IS NOT SHIFTING AS RAPIDLY AS THE NUMBERS THEMSELVES.

GRID

IN LOOKING AT HOW THE CONSUMER PERCEIVES THE SMOKING MARKET, WE WORKED WITH JOE SHERRILL AND HIS PEOPLE IN MRD TO DEVELOP THIS MATRIX WHICH PLACES BRANDS ON THE GRID IN TERMS OF THEIR TASTE AND USER IMAGE AS PERCEIVED BY SMOKERS OF THESE BRANDS.

THE FARTHER TO THE RIGHT A BRAND IS, THE STRONGER ITS TASTE IMAGE - THE FARTHER TO THE LEFT, THE Milder ITS TASTE IMAGE.

THE VERTICAL LINE REPRESENTS ATTITUDES. ABOVE THE CENTER POINT IS A MORE LIBERAL IMAGE OF THE BRAND - BELOW, MORE TRADITIONAL.

FOR EXAMPLE, AS YOU MIGHT EXPECT, CAMEL REGULAR HAS A STRONG TASTE IMAGE AND IS CONSIDERED TRADITIONAL.

IN CONTRAST, KOOL AND MARLBORO HAVE A LESS STRONG TASTE AND A MORE LIBERAL IMAGE.

WINSTON IS ALMOST DEAD CENTER, AND DOES NOT HAVE AS DEFINITIVE AN IMAGE AS MARLBORO.

THE POSITIONING VOID THAT INTRIGUES US IS THE MILD TASTE AND LIBERAL ATTITUDE OR NEW VALUES IMAGE QUADRANT. IT IS SPARSELY POPULATED.

VANTAGE IS THERE FOR US BUT IN A WEAK WAY. NEWPORT WITH ITS YOUNG ADULT ACTIVE VISUAL "ALIVE WITH PLEASURE" COPY, AND MENTHOL MILDNESS IS MORE TARGETED.

I EXPECT MERIT WITH ITS NEW NAME AND STRONG LOW 'TAR' IMAGE TO BE SOMEWHERE BETWEEN VANTAGE AND WINSTON. KENT GOLDEN LIGHTS WITH ITS OLD NAME WILL PROBABLY BE MORE TRADITIONAL AND THUS BELOW THE LINE.

THE AVAILABLE DATA ON MORE SUGGESTS TO US THAT THE BRAND WOULD BE POSITIONED ABOUT HERE ON THE GRID WITH ABOUT THE SAME TASTE PERCEPTION AS MERIT BUT SOMEWHAT MORE LIBERAL IN ATTITUDE.

WE THINK THAT NOW WILL NET OUT ABOUT HERE WHICH IS CONSISTENT WITH ITS SUPER LOW 'TAR' NUMBERS AND MILD TASTE.

TO VISUALLY ILLUSTRATE THE VOID WE WANT TO FILL, LET'S LOOK AT MARLBORO AND KOOL ADVERTISING THAT DEPICT A MORE LIBERAL IMAGE AND COMPARE IT TO VANTAGE AND MERIT WHICH HAVE A LESS LIBERAL IMAGE.

WHAT WE WANT IS TO PORTRAY THE FEELING AND IMAGE PROJECTED BY MARLBORO AND KOOL ADVERTISING ON A VANTAGE/MERIT TYPE OF CIGARETTE.

IN OTHER WORDS, PUT "BALLS" (TWO OF THEM) ON A LOW 'TAR' AND NICOTINE CIGARETTE AND POSITION HERE (BETWEEN MERIT AND WINSTON AND MORE LIBERAL THAN MORE).

THE NEW BRAND DIRECTIONS I WILL COVER WITH YOU NOW ARE STRATEGICALLY POSITIONED TO FILL IN THIS Milder TASTE/NEW VALUES IMAGE QUADRANT - THIS IS TOMORROW'S GROWTH SEGMENT.

produced by RJRTCC

CHART #24

• Newport

BURTON

• Marlboro

• Kool

• More

• Merit

• Camel Filter

• Now

Desired Mild
Taste

• Vantage

Winston

Desired Strong
Taste

• Kent Golden
Lights Kent
Doral

• Salem

• Tareyton

• Va. Slims

• Viceroy

• Raleigh

• Lucky
Strike

• B&H
Men.

• Parliament

• Pall
Mall

• Camel
Reg.

• Va. Slims
Fil.

• Belair
B&H
Fil.

• L&M

• Lark

• Chesterfield

Traditional
Attitude

SOURCE: MRD 1974 Consumer Segmentation Study

APR:st
4/21/76 1901 45005

52614 7691

SHORT-TERM MAJOR AREAS
OF CONCENTRATION

I. LOWERED 'TAR' PRODUCTS

BROAD BASED CONSUMER APPEAL WITH "FULL FLAVOR" PERCEPTION TO INCLUDE FILTER AND MENTHOL STYLES.

SOLO MENTHOL WITH "FULL FLAVOR" PERCEPTION.

ADDRESS PARTICULAR NEEDS OF "CONCERNED" SMOKERS.

II. SPECIAL NEEDS

PRODUCTS TARGETED TO SOCIAL SYMBOLISM AND ENHANCING SOCIAL ACCEPTABILITY OF CIGARETTE SMOKING.

Produced by RJRTCC

in

BURTON

BASIC CONCEPTUAL FRAMEWORK

BROAD BASED APPEAL VIA "FULL-FLAVOR" PERCEPTION:

PRODUCT

- 9 MG. 'TAR' - .9 MG. NICOTINE
- POPULAR KING SIZE
- FILTER-MENTHOL

UNIQUE CONSUMER BENEFIT

- 100% NATURAL BLEND
- NOTHING ARTIFICIAL
- SMOOTH
 - . NATURAL TASTE
 - . EASIER TO STAY WITH
 - . NOT HARSH

TARGET MARKET

- UNDER 35
- LIBERAL
- MASCULINE

COMPETITIVE TARGET

- MERIT
- MARLBORO
- KOOL

DESIRED SMOKER IMAGE

- LEADER
- AGGRESSIVE
- INDEPENDENT
- MASCULINE
- ADVENTUROUS

produced by RJRT C

in

HUBBARD
BURTON
KING

RL

"NOTHING ARTIFICIAL"
CONCEPT STATEMENT*

(JULY, 1976)

TRADITIONAL CIGARETTES SOLD IN AMERICA TODAY USE A VARIETY OF ARTIFICIAL ADDITIVES TO ENHANCE THEIR TASTE AND FLAVOR. NOW, A MAJOR TOBACCO COMPANY OFFERS A CIGARETTE MADE WITH 100% NATURAL BLEND-- NOTHING ARTIFICIAL HAS BEEN ADDED TO THE FULL-FLAVORED, PREMIUM QUALITY TOBACCO, NATURALLY CURED AND BLENDED. IT PROVIDES A UNIQUELY RICH, NATURAL TOBACCO TASTE AND AROMA. IT'S EASIER TO STAY WITH DAY AFTER DAY, SMOKE AFTER SMOKE BECAUSE ITS REMARKABLY SMOOTH WITH NO STING OR SCRATCH. IT'S IN THE MOST POPULAR KING SIZE LENGTH AND IN REGULAR AND MENTHOL -- ONLY NATURAL MENTHOL IS USED. IT IS ALSO LOWER IN 'TAR' THAN 97% OF ALL CIGARETTES SOLD.

- MOST CURRENT STATEMENT USED BY BRAND GROUP WITH MRD AND TD AT THIS STAGE OF PROJECT DEVELOPMENT.

SUMMARY

- "NATURAL" TREND STRONG AND INCREASING
- "REAL" CONCEPT SHOWS STRONG POTENTIAL
 - BROAD APPEAL BASED PRIMARILY ON "NATURAL"/
NO ADDITIVES CLAIM
 - CONNOTES TASTE TO FULL FLAVOR SMOKERS,
LOW NUMBERS TO HI-FI SMOKERS
 - NO SIGNIFICANT NEGATIVES
 - 85MM, FILTER/MENTHOL DIRECTION PROVIDES
OPTIMUM CONFIGURATION TO MAXIMIZE POTENTIAL
AMONG THE KEY DEMOGRAPHIC TARGET GROUP.

Produced by RJRTCC

in

BURTON
HILTON

SOLO MENTHOL WITH "FULL FLAVOR"
CONSUMER PERCEPTION

RATIONALE

- MENTHOL IS 28% OF THE MARKET AND GROWING.
- POSITION RJR MORE COMPETITIVELY IN TOMORROW'S MENTHOL MARKET VS. KOOL.
- TRADITIONALLY, THOSE BRANDS THAT HAVE BEEN SINGLE-MINDED, WITHOUT A FILTER COUNTERPART, IN THEIR ATTACK ON THE MENTHOL CATEGORY--KOOL, SALEM, NEWPORT--ARE THE ONES THAT HAVE CAPTURED THE LARGEST SHARE.
- SINGLE-MINDED APPROACH AGAINST KOOL'S SHARE SOFTNESS
WOULD MAXIMIZE THE CHANCE OF SUCCESS AMONG THE KEY DEMOGRAPHIC TARGET - YOUNG, LIBERAL, MASCULINE - WITH SIGNIFICANT BLACK APPEAL.
- DIRECTLY RELATES TO SHIFT TOWARD BRANDS WITH LOWERED 'TAR' LEVELS
 - MENTHOL SMOKERS MORE "CONCERNED" THAN NON-MENTHOL SMOKERS
 - MENTHOL ITSELF HAS "SAFER" HALO

PRODUCT DIRECTION

- LOWERED 'TAR' (8-12 MGS.)
- MAXIMIZE TOTAL SMOKING SATISFACTION VS. KOOL ON A PER PUFF BASIS.
- MENTHOL IS VERY COMPATIBLE WITH NICOTINE, CREATING A SYNERGISTIC EFFECT IN MAXIMIZING SATISFACTION. THE OPTIMUM LEVEL OF MENTHOL MAY WELL BE "HIGH" BUT MAY NOT REQUIRE THE KOOL LEVEL OF DELIVERY.

Produced by RJRTCC

in

BURTON
HUNT

ADDRESS NEEDS OF "CONCERNED" SMOKERS

RATIONALE

- THIS DEVELOPMENT AREA SPEAKS TO THE "WORRIER" SEGMENT OF THE MARKET (17% OF SMOKERS ARE SO CLASSIFIED). THESE SMOKERS SEEK PRODUCTS WITH TANGIBLE/VISIBLE FEATURES TO ASSUAGE THEIR "CONCERN" ABOUT SMOKING.
- "NUMBERS" PRODUCTS HAVE A GROWING APPEAL TO THESE SMOKERS. PRODUCTS IN THE 1-6 MG. 'TAR' RANGE WILL CONTINUE TO BUILD SUCCESSFUL LONG-TERM FRANCHISES (E.G., CARLTON'S GROWTH RATE, NOW'S IMMEDIATE ACCEPTANCE - FOSTERED BY THE INTENSE INDUSTRY COMMITMENT IN 1976 TO HI-FI BRANDS).
- CONTINUING GOVERNMENTAL AND ANTI-SMOKING GROUP PRESSURE IN RAISING ADDITIONAL ALLEGED HAZARDS IN SMOKING - PARTICULARLY IN AREAS OTHER THAN 'TAR' AND NICOTINE, SUCH AS CARBON MONOXIDE, NITRIC OXIDE AND OTHER GAS PHASE COMPONENTS.

produced by RJRTCC

in

BURTON

PRODUCT DIRECTIONS

THESE PRODUCTS WOULD BE IN THE 1-6 MG. 'TAR' RANGE WITH SIGNIFICANT REDUCTIONS IN CARBON MONOXIDE AND NITRIC OXIDE AS COMPARED TO NORMAL FLAVOR CIGARETTES.

A. BIG BERTHA (BB) PROJECT

- CONSUMER BENEFIT - A LOW 'TAR' CIGARETTE UTILIZING A UNIQUE FILTRATION SYSTEM TO DELIVER "FLAVOR EQUAL TO TWICE THE 'TAR' LEVEL."

SPECIFICATIONS - 100MM, 5 MG. 'TAR', MAXIMUM LEVEL OF NICOTINE COMMENSURATE WITH SMOKING QUALITY AND COST CONSIDERATIONS.

B. PROJECT CB

SEEKS TO ACHIEVE THE SAME END RESULT AS "BB" BY USING A CONVENTIONAL FILTER SYSTEM.

C. ZERO 'TAR' CIGARETTE

'TAR' DERBY MAY NOT HAVE HIT BOTTOM YET, AND WE NEED TO DETERMINE THE TECHNICAL FEASIBILITY OF SUCH A PRODUCT.

D. CONTINUE TO EXPLORE NEW FILTRATION SYSTEMS, BLEND COMPOSITIONS - TO INCLUDE EXTENDERS, AND NICOTINE DELIVERY TECHNOLOGY LEADING TO SCIENTIFIC BREAK-THROUGHS AND/OR STRONG "REASONS WHY" FOR NEW PRODUCT INTRODUCTIONS.

II. SPECIAL CONSUMER NEEDS

A. PRODUCTS WITH APPEAL BASED ON THE SOCIAL SYMBOLISM OF SMOKING.

PROJECT

- PREMIUM PRICED, INTERNATIONAL BRAND

RATIONALE

- CAPITALIZES ON GROWING TRENDS
- GREATER CONSUMER INVOLVEMENT IN FASHION
AND STYLE AND LUXURIOUS BUT FUNCTIONAL
PRODUCTS
- MANIFESTED IN TREND TOWARD INTERNATIONALISM -
IN THE U. S. AND THROUGHOUT THE WORLD
- ONLY TARGETED METRO MARKET BRAND FOR U. S.
- WITH POTENTIAL IN SOPHISTICATED URBAN MARKETS
OF THE WORLD.
- "LEAP FROG" INTO THE GROWING PREMIUM PRICED,
PRESTIGIOUS, INTERNATIONAL BRAND CATEGORY WITH
PRESTIGIOUS QUALITY/FASHION NAME THAT ALREADY
HAS STRONG AWARENESS AND RELEVANT, MEANINGFUL
CONSUMER EQUITY.
- VERY HIGH PROFIT MARGINS.

produced by RJRTCC

in

BURTON
HUNTER

PRODUCT DIRECTION

- FINEST CIGARETTE IN THE WORLD - SUPPLANT DUNHILL
- 100MM
- LUXURIOUS BOX PACKAGING - POSSIBLY FLAT 20's

produced by RJRTOC

in

BURTON
HUMPHREY

B. PRODUCTS TO ENHANCE SOCIAL ACCEPTABILITY OF
CIGARETTE SMOKING.

RATIONALE

OTHER THAN HEALTH CONCERNS, IN THE LONG-
TERM WE SEE THE PRESSURES TO MAKE CIGARETTE
SMOKING SOCIALLY UNACCEPTABLE AS THE MAJOR
PROBLEM FACING THE INDUSTRY.

PRODUCT DIRECTIONS

- CONSUMER "SOCIAL PROBLEMS" COMING INTO FOCUS
WHICH MAY HAVE LONGER TERM PRODUCT IMPLICATIONS:

PROBLEM

SMOKERS' BREATH.

SMOKE IRRITATING
NON-SMOKERS AND
SMOKERS ALIKE.

OFFENSIVE SMOKE
ODOR.

DEVELOPMENT AREA

BREATH FRESHNERS OR
OTHER MEANS OF ELIMINATING/
REDUCING TOBACCO BREATH.

REDUCED SIDESTREAM OF
SMOKE.

AROMATICS COMPATIBLE WITH
CIGARETTE TASTE, ENJOYMENT
AND MAXIMUM SATISFACTION

- SUCCESSFUL DEVELOPMENT OF THIS KIND OF TECHNOLOGY
TAKES COMMITMENT OF MANPOWER, TIME, AND MONEY. WE
MUST EFFECTIVELY UTILIZE R&D RESOURCES TO NOT ONLY
CONCENTRATE ON THE SHORT-TERM PROJECTS BUT ALSO TO
ESTABLISH PROGRAMS YIELDING SOLUTIONS TO THESE AND
OTHER "SOCIAL" PROBLEMS. WE MUST HAVE THE TECHNOLOGY
READY WHEN THE MARKETPLACE DEMANDS THE PRODUCT.

50037 1078

produced by RJRTCC
in
BURTON HUMPHREY

produced by RJRTTC
in

BURTON
HUMPHREY

PRIORITY

TEST MARKET DATE

- | | | |
|--------------------|--|----------------|
| 1. REAL | ● AGENCY ASSIGNMENT ON
AUGUST 10 | APRIL 1977 |
| | ● PRODUCT TEST
MID-AUGUST NFO | |
| 2. SOLO MENTHOL | ● AGENCY ASSIGNMENT BY
OCTOBER 1 | JULY 1977 |
| | ● INITIATE PRODUCT DEVELOPMENT | |
| 3. BIG BERTHA (BB) | ● INTENSIVE PRODUCT DEVELOPMENT
WORK UNDERWAY | SEPTEMBER 1977 |
| | ● AGENCY ASSIGNMENT BY
NOVEMBER 1 | |

CHART #32

-58-

52614 7704

5/01/75

VII. PHARMACOLOGICAL EFFECTS OF
NICOTINE AND TOBACCO SMOKING.

50037 107

BURTON
HUNTLEY

in

produced by RJRTG

CHART #38 - PHYSIOLOGICAL AGENTS

EACH OF THE LIFE PROCESSES WITHIN OUR BODIES IS A COMPLEX SERIES OF CHEMICAL REACTIONS. DIGESTING FOOD, GOING TO SLEEP, WAKING UP, THE PROCESS OF THINKING, REACTING TO A STRESSFUL SITUATION, REACTING TO A PLEASANT SITUATION -- ALL THESE PROCESSES ARE DEPENDENT ON CHEMICAL REACTIONS. AND EACH OF THESE CHEMICAL REACTIONS IS REGULATED BY A CERTAIN KEY CHEMICAL COMPOUND.

CONSIDER FOR EXAMPLE HOW THE BODY REACTS TO SUDDEN DANGER. THE VERY SECOND A PERSON IS CONFRONTED WITH UNEXPECTED DANGER, THE ADRENAL GLAND INSTANTLY PRODUCES AN EXTRA SUPPLY OF ADRENALINE AND PUMPS IT INTO THE BLOOD. THIS SURGE OF ADRENALINE RAISES THE BLOOD PRESSURE WHICH IN TURN GIVES THE BODY A SUDDEN BURST OF ENERGY AND THEREBY THE ADRENALINE ENABLES THE BODY TO BETTER ~~DEAL~~ WITH THE DANGER CONFRONTING IT.

IN THIS PARTICULAR SITUATION, ADRENALINE IS THE REGULATOR FOR THE COMPLEX SERIES OF REACTIONS THAT TAKE PLACE. THIS REGULATOR IS MANUFACTURED WITHIN THE BODY. THE BODY DOES NOT RELY ON AN OUTSIDE SOURCE FOR ADRENALINE. DIGESTION, GOING TO SLEEP, WAKING UP -- THESE FUNCTIONS ARE CONTROLLED BY VERY SPECIAL CHEMICAL COMPOUNDS MANUFACTURED WITHIN THE BODY. NOW PLEASE REMEMBER THAT THESE VERY IMPORTANT CHEMICALS ARE MANUFACTURED WITHIN THE BODY AND WE MUST NOT DEPEND ON AN OUTSIDE SOURCE FOR THESE CHEMICALS SINCE THEY ARE ABSOLUTELY ESSENTIAL FOR OUR SURVIVAL AT CERTAIN CRITICAL POINTS IN OUR LIVES, EXAMPLES BEING ADRENALINE WHEN WE HAVE AN UNEXPECTED NEED FOR ENERGY, OR INSULIN, TO PROPERLY UTILIZE GLUCOSE IN OUR BODIES.

IN THE COURSE OF HIS EXISTENCE ON THE EARTH, MAN LEARNED TO RELY ON OTHER CHEMICAL COMPOUNDS WHICH HE DISCOVERED - MANUFACTURED OUTSIDE THE HUMAN BODY.

PERHAPS AS MANY AS 10,000 YEARS AGO -- MAN EXPERIENCED RELIEF FROM STRESS BY TAKING WINE. THEN LATER HE LEARNED THAT TEA AND COFFEE ACT AS STIMULANTS.

THE INDIANS OF AMERICA DISCOVERED TOBACCO AND FOUND THAT SMOKING THE TOBACCO IN A PIPE PRODUCES A RELAXING SENSATION AND WHEN SMOKED IN COMPANY WITH OTHERS CONTRIBUTES TO GOOD SOCIAL PEACEFUL INTERACTION.

THUS WE CAN REGARD SMOKING AS A REGULATOR OF ONE OR MORE OF OUR LIFE PROCESSES.

IN EACH OF THE DISCOVERIES MENTIONED THE EFFECT IS DUE TO ONE MAJOR CHEMICAL CONSTITUENT:

IN DRINKING IT'S ALCOHOL.

IN COFFEE AND TEA IT'S CAFFEINE.

IN SMOKING THE EFFECT PRODUCED ON

THE HUMAN BODY IS ASCRIBABLE

MAINLY TO NICOTINE.

produced by RJRTC
in
BURTON
HUMPHREY

PHYSIOLOGICAL AGENTS

HUMAN DEPENDENCE

MANUFACTURED

1. INSIDE THE BODY

ADRENALINE

INSULIN

2. OUTSIDE THE BODY

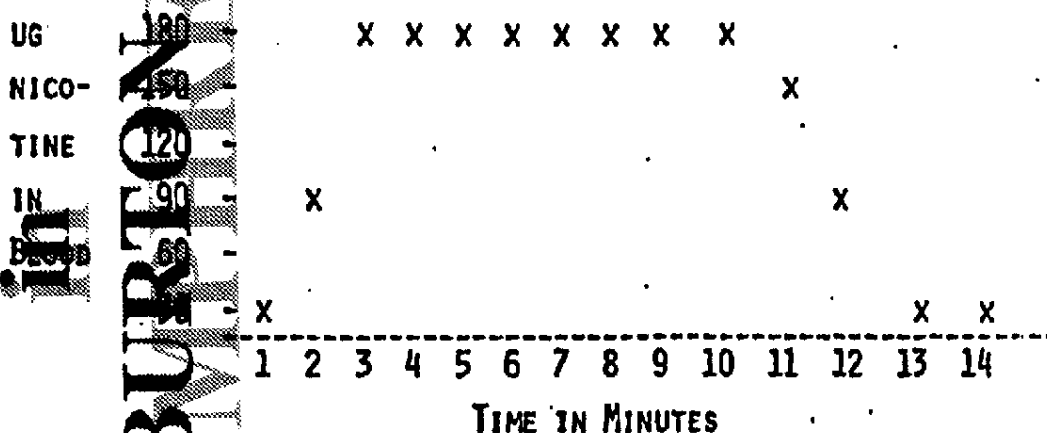
CAFFEINE

NICOTINE

CHART #39

NOW, WHAT HAPPENS IN SMOKING - AND HOW WOULD ONE DESCRIBE THE EFFECT WHICH IS ACHIEVED?

WHEN ONE INHALES CIGARETTE SMOKE - ONE GETS INTO THE LUNGS - AND THEN INTO THE BLOOD - A CERTAIN AMOUNT OF NICOTINE. FOR EXAMPLE, A PERSON SMOKING A NON-FILTER CIGARETTE, TAKING ONE PUFF A MINUTE AND INHALING - 10 PUFFS - SHOWS THIS PATTERN OF NICOTINE IN THE BLOOD:



SO THIS IS WHAT HAPPENS WHEN A NORMAL SMOKER SMOKES - INHALES 10 PUFFS - 1 PUFF/MINUTE. NICOTINE LEVEL OF BLOOD REACHES A MAXIMUM AFTER ONE OR TWO PUFFS. THE TOTAL AMOUNT OF NICOTINE IN HIS SYSTEM OF SIX QUARTS OF BLOOD REACHES 180 MICROGRAMS - OR ABOUT 300TH PART OF A DROP OF NICOTINE. THEN ABOUT 2 - 5 MINUTES AFTER HE FINISHES SMOKING, NICOTINE LEVEL DROPS TO 35 UG OR ABOUT 1500TH OF A DROP AND REMAINS THERE FOR SOME TIME. THUS NICOTINE GOES UP TO 180 UG IN THE BODY (300TH PART OF A DROP) AT THE START OF THE CIGARETTE, STAYS THERE FOR THE DURATION OF SMOKING, THEN DROPS TO ABOUT 35 UG (1500TH PART OF A DROP) 5 MINUTES AFTER SMOKING

produced by RJRTC
in

BURTON

CHART #39

MICROGRAMS
NICOTINE
IN
BLOOD

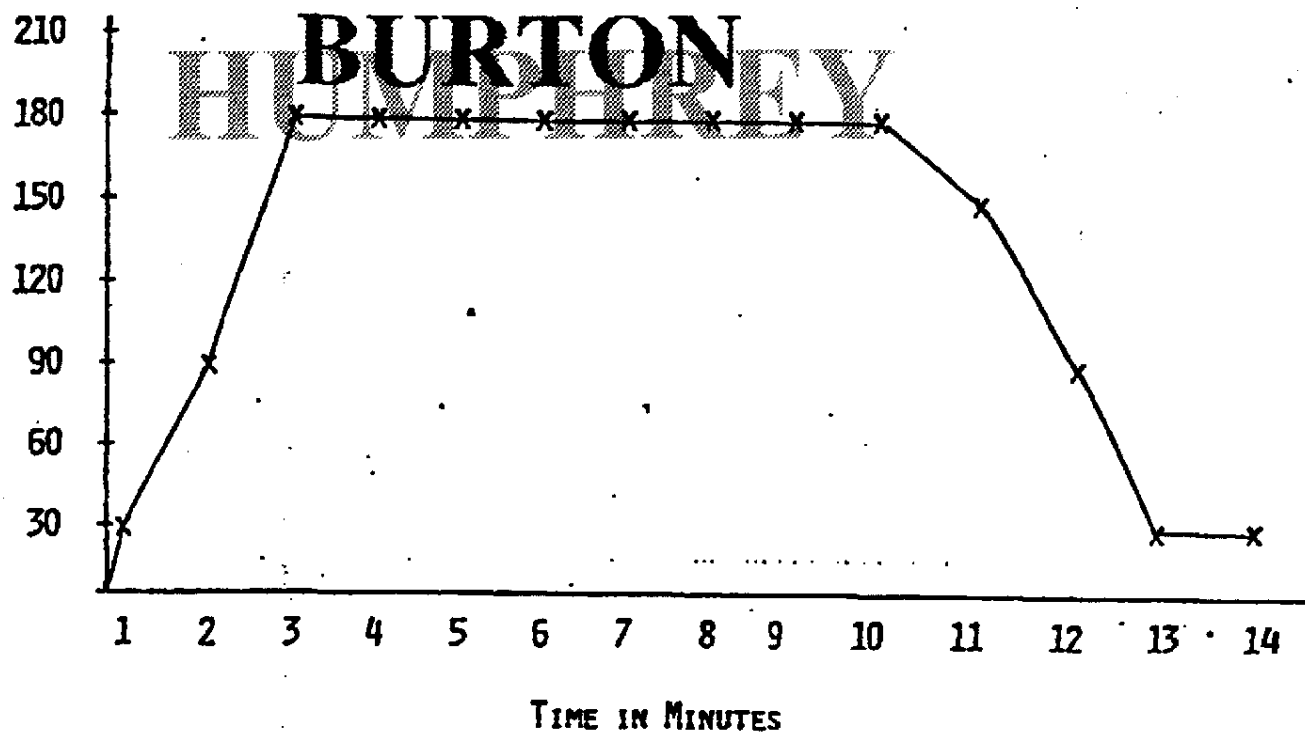


CHART #40 - PHYSIOLOGICAL CHARACTERISTICS OF NICOTINE

THE NICOTINE IN THE BLOOD ACTS UPON THE CENTRAL NERVOUS SYSTEM AND PRODUCES IN THE AVERAGE SMOKER A SENSATION ONE COULD DESCRIBE AS EITHER STIMULATING OR RELAXING.

IT IS IMPORTANT TO NOTE THAT AN INDIVIDUAL WHO SMOKES REGULARLY THOROUGHLY ENJOYS THE SENSATION ATTRIBUTABLE TO SMOKING OF A GOOD QUALITY CIGARETTE.

IT CAN BE ASSUMED THAT THE AMOUNT OF NICOTINE THAT IS REQUIRED TO GET THIS DESIRED EFFECT VARIES FROM PERSON TO PERSON. AS WE SAID, AT 10 PUFFS A MINUTE AN AVERAGE PERSON GETS ABOUT 180 UG OF NICOTINE IN HIS BLOOD FROM A NON-FILTER, ASSUMING 6 QUARTS OF BLOOD PER PERSON.

BUT THERE ARE WAYS TO INCREASE OR DECREASE THE AMOUNT OF NICOTINE ONE CAN OBTAIN BY SMOKING A SINGLE CIGARETTE:

ONE CAN TAKE A DEEPER PUFF OR SHALLOWER PUFF.

AVERAGE PUFF IS 35cc 1/7 OF A CUP.

BUT IT CAN BE AS HIGH AS 60cc OR 1/4 OF A CUP.

ONE CAN PUFF MORE FREQUENTLY OR LESS FREQUENTLY.

INSTEAD OF A PUFF A MINUTE IT COULD BE 2 A MINUTE.

ONE CAN TAKE A DEEPER PUFF AND HOLD THE SMOKE IN THE LUNGS LONGER BEFORE EXHALING TO ASSURE COMPLETE TRANSFER OF NICOTINE INTO THE BODY FLUIDS.

WITHOUT ANY QUESTION, THE DESIRE TO SMOKE IS BASED ON THE EFFECT OF NICOTINE ON THE BODY. ONE CAN DESCRIBE IT BEST AS BEING EITHER A RELAXATION OR A STIMULATION, DEPENDING ON THE CIRCUMSTANCES.

FOR EXAMPLE, A BONAFIDE SMOKER LIGHTING UP A CIGARETTE IN A COZY CHAIR IN FRONT OF A FIREPLACE IS LOOKING FOR RELAXATION. THAT SAME BONAFIDE SMOKER GOING INTO AN IMPORTANT BUSINESS MEETING, WHERE HE IS EXPECTED TO BE ON HIS TOES, WILL LIGHT UP FOR STIMULATION. COMPARED TO OTHER PHYSIOLOGICAL AGENTS - FOR EXAMPLE ALCOHOL - NICOTINE PRODUCES A RELATIVELY MILD PHYSIOLOGICAL EFFECT. IT SHOULD ALSO BE EMPHASIZED THAT NICOTINE DOES NOT INTERFERE WITH OUR BODILY FUNCTIONS. IF ANYTHING, SMOKING MAKES US MORE ALERT WHILE DRIVING, WHEREAS OTHER PHYSIOLOGICAL AGENTS ARE KNOWN TO SERIOUSLY IMPAIR ONES DRIVING.

THE ENJOYMENT OF SMOKING APPEARS TO BE A HEREDITARY CHARACTERISTIC. A ROUGH APPROXIMATION IS THAT ABOUT 1/4 OF THE POPULATION ARE HEREDITARILY PREDISPOSED TO SMOKING. SOME ARE ONLY MILDLY HEREDITARILY PREDISPOSED AND THAT'S WHY SO MANY SMOKERS HAVE FOUND IT SO EASY TO QUIT.

BUT IT IS IMPORTANT TO REMEMBER THAT THE WAY YOUR BODY REACTS TO NICOTINE IS A HEREDITARY CHARACTERISTIC. SOME PEOPLE HAVE AN AFFINITY FOR NICOTINE WHILE OTHERS DO NOT CRAVE IT.

CHART #40

PHYSIOLOGICAL CHARACTERISTICS
OF NICOTINE

produced by RJRT

in

HURTON

1. STIMULATION
2. RELAXATION
3. ENJOYABLE
4. VARIABLE FROM
PERSON TO PERSON
5. HEREDITARY

CHART #41

NOW LET'S LOOK AT EACH DISCRETE STEP OF THE SMOKING PROCESS IN AN EFFORT TO ESTABLISH THE DISTINGUISHING CHARACTERISTICS OF SMOKING SATISFACTION. IF WE ESTABLISH THE DISTINGUISHING FEATURES OF SMOKING SATISFACTION WE CAN DESIGN A CIGARETTE THAT WOULD MORE CLOSELY MEET THE NEEDS OF THE SMOKER IN THE YEARS TO COME.

IN THE FIRST DISCRETE STEP IN SMOKING ONE TAKES A PUFF ON A LIT CIGARETTE AND DRAWS INTO THE ORAL CAVITY OVER A 2-SECOND PERIOD 35CC OR 1/7TH OF A CUPFUL OF SMOKE. IN THE SECOND STEP, ONE HOLDS THE SMOKE IN THE MOUTH FOR A FRACTION OF A SECOND. IN THE THIRD STEP, IF ONE IS AN INHALER ONE INHALES THE SMOKE INTO THE LUNGS. IN THE FOURTH STEP, ONE HOLDS THE SMOKE IN THE LUNGS FOR ABOUT 2 SECONDS. IN THE FINAL STEP, ONE EXHALES THE SMOKE.

produced by RJRTCC
in
BURTON HUNTER

FIVE STEPS IN SMOKING

1. PUFFING
2. HOLDING SMOKE IN MOUTH
3. INHALING
4. HOLDING SMOKE IN LUNGS
5. EXHALING

CHART #42 - THE TWO CRITICAL STEPS IN SMOKING

THE CRITICAL STEPS IN SMOKING WHICH DETERMINE SMOKING SATISFACTION
ARE:

- (1) THE SECOND STEP DURING WHICH ONE HOLDS THE SMOKE IN
THE MOUTH FOR A FRACTION OF A SECOND - AND
- (2) THE FOURTH STEP DURING WHICH ONE HOLDS THE SMOKE IN
THE LUNGS FOR ABOUT 2 SECONDS.

produced by RJRTCC

in

BURTON
HUMPHREY

produced by RJRTCC
in
BURTON
HUMPHREY

THE TWO CRITICAL STEPS
IN SMOKING

1. HOLDING IN MOUTH
2. HOLDING IN LUNGS

CHART #43 - EFFECT OF SMOKE IN THE MOUTH

WHILE THE SMOKE IS HELD IN THE MOUTH THE SMOKER PERCEIVES A VERY SLIGHT PHYSIOLOGICAL REACTION, THE EXTENT OF THIS REACTION DEPENDING ON THE CHARACTER OF THE SMOKE. IF IT IS A HIGH TAR CIGARETTE, SAY A NON-FILTER 25 - 30 MG. TAR AND A PH AROUND 6.0, HE WILL IN THE SHORT TIME HE HOLDS THE SMOKE IN THE MOUTH PERCEIVE A MILD NICOTINE EFFECT. IF THE CIGARETTE IS MADE OF QUALITY TOBACCOS AND IS JUDICIOUSLY BLENDED THE SMOKER WILL ASSOCIATE THIS MILD NICOTINE EFFECT WITH GOOD CIGARETTE FLAVOR, GOOD TASTE, GOOD SMOKING SATISFACTION. THERE IS RELATIVELY LITTLE NICOTINE TRANSFERRED TO HIS TASTE BUDS AND INTO HIS BODY FLUIDS. SUFFICIENT NICOTINE IS TRANSFERRED FOR HIM TO PERCEIVE IT AS A GOOD TASTING CIGARETTE IN THE VERY SHORT TIME HE HOLDS THE SMOKE IN HIS MOUTH BEFORE INHALATION.

IF IT IS A LOW TAR CIGARETTE, SAY AROUND 10 MG. AND PH 6.0, THERE WILL BE LESS NICOTINE TRANSFERRED IN THE MOUTH THAN FROM A 25 - 30 MG. CIGARETTE. OBVIOUSLY - HE WILL DISCERN LESS TASTE. TO ENHANCE THIS TASTE, ONE MUST RAISE THE PH OF SMOKE. SO SIMPLY BY RAISING PH, SAY FROM 6.0 TO 6.5 YOU RAISE THE LEVEL OF NICOTINE THAT IS TRANSFERRED TO THE TASTE BUDS AND BODY FLUID IN THE MOUTH TO THE SAME LEVEL AS WITH THE HIGHER TAR CIGARETTE. AND HENCE, EVEN THOUGH THE TAR LEVEL HAS BEEN DROPPED FROM 25 TO 10, BY RAISING THE PH FROM 6.0 TO 6.5, YOU INCREASE THE NICOTINE TRANSFER IN THE MOUTH, AND YOU RESTORE MOUTH SATISFACTION WHICH WE CAN CALL FLAVOR, TASTE, SMOKING QUALITY OR SMOKING SATISFACTION.

AND THIS IS THE KEY TO TASTE - THE TRANSFER OF NICOTINE TO TASTE

BUDS AND BODY FLUIDS IN THE MOUTH DURING THE SHORT TIME YOU HOLD THE SMOKE IN YOUR MOUTH BEFORE INHALATION. FOR ANY TAR LEVEL - THERE IS THE RIGHT PH FOR MAXIMUM TASTE.

FOR ANY TAR LEVEL - IF THE PH IS TOO HIGH - THE SMOKE IS INTOLERABLE - IF PH IS TOO LOW - THE SMOKE WILL PRODUCE VERY LITTLE SO-CALLED CIGARETTE FLAVOR IN THE MOUTH.

BACK IN THE FORTIES FOR EXAMPLE, CAMELS, CHESTERFIELDS, AND LUCKY STRIKES HAD HIGH TAR, AROUND 30 MG. AT THAT HIGH TAR LEVEL - ALL CIGARETTES PROVIDED APPRECIABLE NICOTINE TASTE IN THE MOUTH. I AM ASSUMING THAT PH OF CAMELS WAS HIGHER THAN THE OTHER TWO - CHESTERFIELDS AND LUCKIES - AND THE MAJORITY OF SMOKERS WENT FOR CAMELS WITH THE HIGHER MOUTH SATISFACTION. THE CAMELS WERE TRULY MORE SATISFYING THAN THE COMPETING CIGARETTES - AND STILL ARE - FROM A PHYSIOLOGICAL STANDPOINT.

BUT IT IS IMPORTANT TO RECOGNIZE THAT WITH ALL THE OLD NON-FILTERS AND EVEN WITH SOME OF THE EARLY FILTERS THERE WOULD BE ADEQUATE MOUTH SATISFACTION AT THE USUAL PH. IN THOSE CASES, PH WAS NOT CRITICAL. BUT WITH THE NEW CATEGORY - 10 MG. TAR AND LESS - PH BECOMES VERY CRITICAL FOR MOUTH TASTE AND NEEDS TO BE OPTIMIZED FOR EACH TAR AND NICOTINE LEVEL.

CHART #43

Produced by RTRC

in

HURTON

EFFECT OF SMOKE IN THE MOUTH

NATURE OF REACTION

HIGH TAR CIGARETTE - PH

LOW TAR CIGARETTE - PH

CAMELS

PH CRITICALITY

CHART #44 - EFFECT OF SMOKE IN THE LUNGS

Now let's look at the fourth step in smoking - the period during which the smoke is held in the lungs. During this period there is complete transfer of nicotine from tar to blood. Transfer of nicotine in lungs is not dependent on pH of smoke. The lung surface area is so tremendous that it simply overrides the pH of tar. It makes no difference whether the pH of smoke is low, as in the case of an all-flue-cured cigarette such as the Canadian or English brands, or whether the pH of smoke is high as in the case of an all-burley cigarette such as the French cigarette. There will be complete transfer of nicotine from the tar to the blood during the short time the smoke is held in the lungs regardless of pH.

With the low tar cigarettes one can adjust the flavor in the mouth by adjusting the pH of smoke. However, the amount of nicotine that one can get in the lungs from low tar cigarettes is much less. So the smoker then resorts to other means to get the nicotine he needs in the blood from low tar cigarettes, by longer puffs, by larger puffs, by more frequent puffs, and also by smoking more cigarettes each day. One can get enough nicotine into the blood during the inhaling step by changing the smoking style; i.e., longer puffs, bigger puffs, and more frequent puffs. Surveys have shown that in switching to lower tar cigarettes, smokers have not necessarily increased the number of cigarettes per day.

The thing to remember, the so-called mouth taste - brand differentiation at the same tar level - say for all 10 mg.

CIGARETTES - IS PH DEPENDENT.

HOWEVER, THE ULTIMATE SATISFACTION COMES FROM THE NICOTINE WHICH IS EXTRACTED WHILE THE TAR IS HELD IN THE LUNGS, THIS BEING THE NICOTINE IN THE SMOKE AS DETERMINED BY CHEMICAL ANALYSIS.

FROM THIS STANDPOINT - A ZERO NICOTINE CIGARETTE HAS NO TASTE IN THE MOUTH - YIELDS NO NICOTINE IN THE LUNGS - AND HENCE REALLY HAS NO POTENTIAL TO PROVIDE SMOKING SATISFACTION. IT PRODUCES NO TASTE IN THE MOUTH, BUT EVEN MORE SERIOUSLY IT FAILS TO PROVIDE THE ULTIMATE SATISFACTION IN THE LUNGS. HOWEVER, THE NICOTINE EFFECT IN THE MOUTH, AND THE NICOTINE EFFECT IN THE LUNGS, ARE NOT THE ONLY CRITERIA OF BRAND QUALITY.

produced by RJRTCC

in

HURTON

produced by RJRT C
in
BURTON
HUMPHREY

EFFECT OF SMOKE IN THE LUNGS

NATURE OF REACTION

PH NON-CRITICALITY

CHANGE OF SMOKING STYLE
WITH CHANGE IN TAR

MOUTH TASTE AND ULTIMATE
SATISFACTION

52614 7723

50037 10

CHART #45 - ROLE OF GAS PHASE

CERTAIN GAS PHASE CONSTITUENTS ARE IMPORTANT; THESE ARE FORMALDEHYDE, ACETALDEHYDE, ACROLEIN, AND METHYL VINYL KETONE. THESE MUST FALL IN A PRESCRIBED RANGE. ACROLEIN FOR EXAMPLE SHOULD BE IN THE RANGE OF 50 UG TO 100 UG. ACETALDEHYDE 500 TO 1200 MICROGRAMS PER CIGARETTE. REYNOLDS AND PHILIP MORRIS VALUES FOR THESE CONSTITUENTS FALL IN THE PRESCRIBED RANGE, WITH PHILIP MORRIS VALUES ON THE LOW SIDE AND REYNOLDS VALUES ON THE HIGH SIDE.

NICOTINE AND NICOTINE-LIKE COMPOUNDS ARE THE MAJOR FACTORS IN THE TASTE ONE DISCERNS WHILE THE SMOKE IS HELD IN THE MOUTH BEFORE INHALATION. THE ALDEHYDES IN THE GAS PHASE ALSO PLAY A SIGNIFICANT ROLE. THEY MUST BE IN THE RIGHT RANGES. IF THESE RANGES ARE EXCEEDED THE SMOKE WILL BE IRRITATING. IF THEY ARE BELOW THE DESIRED RANGES THE SMOKE WILL HAVE THE SO-CALLED CARBON OFF TASTE.

CHART #45

produced by RJRTCC
in
BURTON
HUMPHREY

ROLE OF GAS PHASE

ACETALDEHYDE

ACROLEIN

FORMALDEHYDE

METHYL VINYL KETONE

PROPERTIES

NEED TO OPTIMIZE AMOUNTS

CHART #46 - REGULATORY AGENCIES

HAVING SAID ALL THIS ABOUT THE ROLE OF NICOTINE AND ALDEHYDES, WE MAY GAIN BETTER INSIGHT INTO SMOKING SATISFACTION IF WE RECOGNIZE THAT TWO INTERDEPENDENT ATTRIBUTES ARE INVOLVED. ONE BASIC ATTRIBUTE OF SMOKING SATISFACTION IS THE QUALITY OF THE NICOTINE, THE GAS PHASE AND THE SMOKE AND ITS PH THAT IS PRESENTED TO THE SMOKER. THE OTHER ATTRIBUTE IS THE QUANTITY OF NICOTINE. SO THESE ARE THE TWO VERY IMPORTANT ATTRIBUTES - THE QUALITY OF THE NICOTINE AND THE QUANTITY OF THE NICOTINE.

IT IS WORTH NOTING THAT OUR COMPETITORS ARE AWARE OF THE SIGNIFICANCE OF THE QUALITY AND QUANTITY ATTRIBUTES OF NICOTINE. MOREOVER, THEY ARE FULLY AWARE OF THE ADVISABILITY OF MAINTAINING A LOW TAR VALUE AND ALSO MAINTAINING THE NICOTINE AS HIGH AS POSSIBLE. FOR EXAMPLE, THE OLD TRUE HAD 11 MG. TAR - .6 MG. NICOTINE -- THE NEW TRUE IS 5 MG. TAR - .5 MG. NICOTINE. SO ALTHOUGH THE TAR WAS REDUCED 6 MG. FROM 11 MG. TO 5 MG., NICOTINE WAS DROPPED ONLY .1 MG. FROM 0.6 TO 0.5. THE TAR TO NICOTINE RATIO WAS DROPPED FROM 18.3 TO 10. ALSO THE PH OF THE SMOKE OF THE NEW TRUE IS AS HIGH AS MARLBORO AND MERIT.

produced by RJRTCC

CHART #46

Produced by RJRTCC
in
BURTONNEY

NICOTINE ATTRIBUTES

REQUIREMENTS

QUALITY - MOUTH

QUANTITY - LUNGS

SMOKING SATISFACTION

CHART #47 - REGULATORY AGENCIES

WHAT OTHER FACT ABOUT CIGARETTE SMOKING SHOULD WE KEEP IN MIND?
THE FACT IS THAT THE ANTI-TOBACCO PEOPLE WILL CONTINUE TO EMPHASIZE THE NEED TO REDUCE TAR IN CIGARETTES. ACTUALLY THE CAMPAIGN TO REDUCE TAR GOES BACK AT LEAST 23 YEARS. AS THE RECORD SHOWS - THE WEIGHTED AVERAGE FOR TAR PER CIGARETTE HAS GONE DOWN FROM ABOUT 35 MG./CIG. TO ABOUT 18 MG. PER CIGARETTE IN THE LAST 23 YEARS.

SOME OF THE MOST AVID ANTI-TOBACCO PEOPLE ARE SAYING THAT IF YOU GET DOWN TO A 3 TO 5 MG. TAR, AND DELIVER REASONABLE PHYSIOLOGICAL SATISFACTION THAT THERE WILL BE VERY LITTLE RISK IN SMOKING. THEY INSIST THAT THERE WILL NEVER BE A SAFE CIGARETTE - BUT THEY WILL SAY THAT IF YOU MUST SMOKE, YOU SHOULD SMOKE THE 4 TO 5 MG. TAR CIGARETTE WITH SUFFICIENT NICOTINE TO GIVE YOU THE SMOKING SATISFACTION.

NONETHELESS THEY WILL ALSO SAY THAT PEOPLE WITH UNFAVORABLE CARDIOVASCULAR RESPONSE TO NICOTINE, CARBON MONOXIDE AND NITRIC OXIDE EXPOSE THEMSELVES TO GREAT RISK EVEN AT THE 3 - 5 MG. TAR LEVEL.

THERE ARE SOME RABID ANTI-TOBACCO PEOPLE WHO MAINTAIN THAT REGARDLESS OF HOW LOW THE VALUES ARE FOR NICOTINE AND CO AND NITRIC OXIDE SMOKING OF THESE CIGARETTES IS STILL A RISK AND SHOULD NOT BE TOLERATED. REGARDLESS OF HOW LOW THESE VALUES ARE, THEY MAINTAIN, EITHER NICOTINE OR CO, OR BOTH IN COMBINATION, CAN BRING ON A FATAL HEART ATTACK IN SOME PEOPLE. HOWEVER, THE SENSIBLE SCIENTISTS DO NOT LOOK UPON NICOTINE, CO AND NITRIC OXIDE AS HEALTH HAZARDS. THEY MAINTAIN NOW THAT IT IS EASY TO PREDETERMINE

THOSE PEOPLE WHO ARE AT RISK - AND THESE PEOPLE, WHOSE
CARDIOVASCULAR SYSTEMS ARE ALREADY IN SUCH VERY SERIOUS CONDITION -
SHOULD WATCH WHATEVER THEY DO. ANY LITTLE DISTURBANCE IN THESE
PEOPLE CAN BRING ON A HEART ATTACK. SO THE PRESENT FEELING
AMONG SCIENTISTS IS THAT REALISTICALLY NICOTINE, CO AND NITRIC
OXIDE ARE NOT INCRIMINATED AS HEALTH HAZARDS IN SMOKING.

produced by RJRTCC

in

BURTON
HUNTLEY

Produced by RJR TC C
in
BURTON
HUNTLEY

REGULATORY AGENCIES

TREND TO REDUCE TARS

ACCEPTABLE LEVELS

CARDIOVASCULAR CONSIDERATIONS

1. CARBON MONOXIDE
2. NITRIC OXIDE
3. NICOTINE

ASSESSMENT

52614 7730

5003

CHART #48 - RECOMMENDATIONS FOR FUTURE BRAND

IN DESIGNING A NEW BRAND, WHAT SPECIFICATIONS WOULD ONE PRESCRIBE THAT WOULD INCORPORATE THE FACTORS WE HAVE BEEN TALKING ABOUT, NAMELY,

- (1) MOUTH SATISFACTION - QUALITY OF NICOTINE,
- (2) ULTIMATE PHYSIOLOGICAL SATISFACTION - QUANTITY OF NICOTINE,
- (3) THE GAS PHASE,
- (4) THE PROPAGANDA OF THE ANTI-TOBACCO PEOPLE TO REDUCE TAR.

HERE ARE THE RECOMMENDED SPECIFICATIONS FOR A BRAND FOR 3 - 5 YEARS HENCE:

FOR TAR AND NICOTINE --

TAR	-	5 MG.
NICOTINE	-	.8 MG. TO 1.0 MG.

THUS THE TAR TO NICOTINE RATIO IS 6.25 TO 5.0

PH	-	6.2 - 6.5
----	---	-----------

THIS PH SHOULD GIVE THE SMOKING SATISFACTION IMMEDIATELY ON TAKING THE PUFF INTO THE MOUTH.

THEN ON INHALATION INTO THE LUNGS, 0.8 MG. TO 1.0 MG. OF NICOTINE WOULD PROVIDE SUFFICIENT NICOTINE TO THE BLOOD TO PRODUCE THE STIMULATION AND RELAXATION EFFECTS DESIRED BY THE SMOKER.

FOR THE GAS PHASE --

ACROLEIN	-	60 - 70 UG
ACETALDEHYDE	-	800 - 1000 UG
FORMALDEHYDE	-	30 - 40 UG

THESE VALUES WOULD PROVIDE SUFFICIENT SCRATCH THAT SMOKERS
ASSOCIATE WITH POPULAR BRAND CIGARETTES.

LENGTH OF CIGARETTES - 85 MM.

85 MM WOULD BE PREFERRED OVER 100 MM BECAUSE IT WOULD PROVIDE
MORE NICOTINE AND MORE TASTE ON A PER PUFF BASIS.

produced by RYRTOC

in

BURTON
HUMPHREY

Produced by RJR TC

in

BURTON
HUMPHREY

RECOMMENDATIONS FOR
FUTURE BRAND

TAR	-	5 MG
NICOTINE	-	0.8 MG TO 1.0 MG
PH	-	6.2-6.5
ACROLEIN	-	60 - 70 UG
ACETALDEHYDE	-	800 - 1000 UG
FORMALDEHYDE	-	30 - 40 UG
LENGTH	-	85 MM.

52614 7733

BURTON
HUMPHREY

in

produced by RJRT

CHART #49 - SATISFACTION FACTORS

EMPHASIS IN RECENT YEARS HAS BEEN ON LOWER AND LOWER 'TAR' NUMBERS IN CIGARETTE PRODUCTS. IN 1976, THE EMPHASIS HAS HEATED RATHER THAN ABATED, AND IS NOW FOCUSED ON PRODUCTS DELIVERING 10 MG. OR LESS.

SATISFACTION MAY BE THOUGHT OF AS THAT WHICH SATISFIES A NEED. WE FEEL THAT MANY THINGS MAY ENTER INTO SMOKING SATISFACTION BUT THE MOST IMPORTANT BY FAR IS NICOTINE. IF THIS IS SO, THEN IT SEEMS TO BE THAT THE LAST THING WE WOULD WANT TO GIVE UP IN OUR PRODUCTS IS THE NICOTINE LEVEL NECESSARY TO SATISFY THE SMOKER'S NEED.

IN MY VIEW, THE MOST IMPORTANT SATISFACTION FACTORS ARE THE FOLLOWING:

produced by RJRTCC
in
BURTON

SATISFACTION FACTORS

1. NICOTINE LEVEL PER PUFF.
2. NICOTINE IMPACT.
3. FLAVOR LEVEL PER PUFF.
4. ABSENCE OF NEGATIVES.

CHART #50 - MAJOR VARIABLES IN "TAR" CONTROL

SOME OF THE TOOLS WE HAVE TO CONTROL THE 'TAR' LEVEL OF
A CIGARETTE ARE AS FOLLOWS:

produced by RJRTCC
in
BURTON
HUMPHREY

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

MAJOR VARIABLES IN
"TAR" CONTROL

BLEND

PAPER

FILTER

TIPPING

CHART #51 - APPROACHES TO DECREASED T/N RATIO

IN GENERAL, METHODS USED TO REDUCE 'TAR' DELIVERY IN CIGARETTES LEAD TO A PROPORTIONATE REDUCTION IN NICOTINE.

USUALLY, THE NICOTINE LEVEL IS LESS THAN 1/10 OF THE 'TAR' LEVEL. IF A CIGARETTE IS DEVELOPED BY USUAL TECHNIQUES TO DELIVER 5 MG. 'TAR', THE NICOTINE DELIVERY WILL FALL TO ABOUT 0.5 MG. TO THE AVERAGE SMOKER ACCUSTOMED TO A NICOTINE DELIVERY OF 1.0 MG., THIS REPRESENTS A DROP IN SATISFACTION OF 50%. TOO MUCH FOR MANY SMOKERS TO ACCEPT.

IT WOULD BE MORE DESIRABLE FROM OUR STANDPOINT, I.E., PROVIDING SATISFACTION TO THE SMOKER AND MAINTAINING HIS ALLEGIANCE TO SMOKING IF WE COULD REDUCE 'TAR' TO WHATEVER TARGET WE CHOOSE WITHOUT A PROPORTIONATE DROP IN NICOTINE.

WE ARE NOT YET AT THE POINT WHERE WE CAN DO THIS. WE CAN IMPROVE SOMEWHAT ON THE CURRENT LIMIT OF 10/1 RATIO OF TAR/ NICOTINE. BUT WE CAN'T PUT THAT RATIO ANYWHERE WE WISH. THE MEANS AND MATERIALS ARE NOT AT HAND. IT WILL TAKE SOME TIME TO GET THERE BY THE APPROACHES WE VISUALIZE.

APPROACHES TO DECREASED
T/N RATIO

DEVELOPMENT AND COMMERCIALIZATION OF
TOBACCO HIGH IN NICOTINE AND LOW IN
"TAR".

DEVELOPMENT OF MEANS TO SUPPLEMENT
NICOTINE IN HOMOGENIZED TOBACCOS AND
PROCESSED STEMS.

DEVELOPMENT OF MEANS TO INCREASE
NICOTINE TRANSFER IN SMOKE.

produced by RJRTC
produced by RJRTC
in
BURTON

IX. MRD/R & D CONSUMER
TESTING PROGRAM

50037 111

HUMPHREY

BURTON

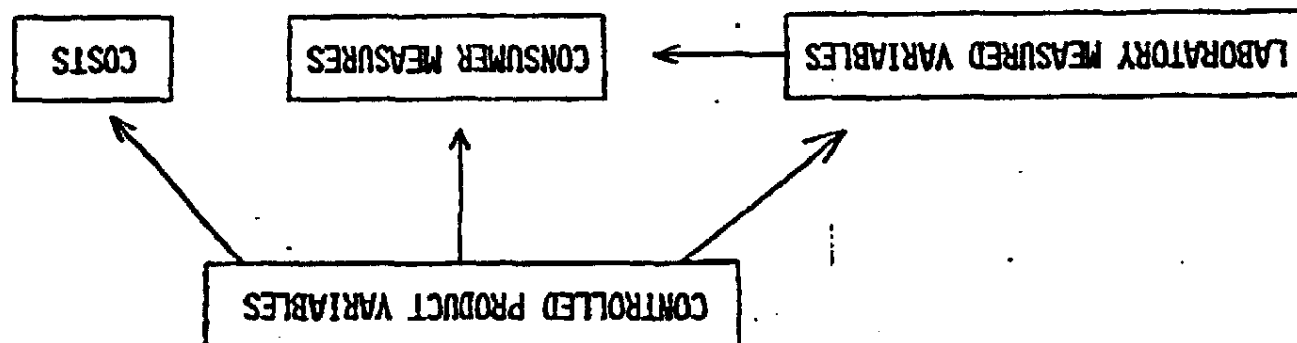
produced by RJRTC
in
by RJRTC

CONTROLLED PRODUCT CHANGE TECHNIQUE

OBJECTIVE. - CHOOSE A PRODUCT THAT OPTIMIZES
PHYSIOLOGICAL SATISFACTION AGAINST
TARGET MARKET.

BASIC PREMISES

- 1) IN DEVELOPING THIS PRODUCT THERE ARE CERTAIN KEY
VARIABLES WE CAN CONTROL.
- 2) THE EFFECT OF EACH OF THESE VARIABLES ON CONSUMERS
HAS TO BE MEASURED.
- 3) IN ORDER TO OPTIMIZE, MANY ALTERNATIVES HAVE TO
BE MEASURED.



HUMPHREY

BURTON
CONTROLLED PRODUCT SYSTEMproduced by RJRTC
in
produced by RJRTC

produced by RJRTC
produced by RJRTC
in

CHART #54

CONTROLLED PRODUCT VARIABLES

1. PERCENT BURLY
2. PERCENT FLUE-CURED
3. PERCENT TOTAL G-7
4. RATIO OF G-7A TO G-7
5. FILTER PRESSURE DROP
6. PAPER POROSITY

LABORATORY MEASURED VARIABLES

1. TAR DELIVERY
2. NICOTINE DELIVERY
3. PH OF SMOKE
4. BURNING RATE
5. PUFFS PER CIGARETTE
6. CIGARETTE HEIGHT
7. CIGARETTE DRAFT
8. FIRMNESS
9. PERCENT NICOTINE IN TOB.
10. PERCENT SUGAR IN TOB.

CONSUMER MEASURES
(WINSTON/MARLBORO/OTHER SMOKERS)

1. PREFERENCE
2. THERMOMETER RATINGS

3. DIRECT QUESTIONS
4. REASONS FOR PREFERENCE

COSTS

1. TOBACCO COST:
2. PAPER
3. FILTER
4. TIPPING AND ADHESIVE

THE EXPERIMENTAL STRATEGY.

CHOOSE AN EXPERIMENTAL DESIGN TO STUDY THE EFFECTS OF

<u>VARIABLE</u>	<u>RANGE</u>
1. PERCENT BURLEY	17% - 28%
2. PERCENT FLUE-CURED	32% - 43%
3. PERCENT TOTAL G-7	20% - 30%
4. RATIO G-7A TO G-7	0:100 - 100:0
5. FILTER PRESSURE DROP	1.80 - 2.80
6. PAPER POROSITY	10 SEC. - 30 SEC.

CENTRAL COMPOSITE RESPONSE SURFACE DESIGN

	BURLEY	FLUE-CURED	TOTAL G7	FPD	PP	G7A:G7	FLUE-CURED ÷ BURLEY
1.	23%	34%	28%	2.05	15	75:25	1.5
2.	23	34	28	2.55	25	75:25	1.5
3.	23	34	28	2.05	25	25:75	1.5
4.	23	34	28	2.55	15	25:75	1.5
5.	27	36	22	2.05	25	75:25	1.3
6.	27	36	22	2.55	15	75:25	1.3
7.	27	36	22	2.05	15	25:75	1.3
8.	27	36	22	2.55	25	25:75	1.3
9.	18	40	27	2.05	25	75:25	2.2
10.	18	40	27	2.55	15	75:25	2.2
11.	18	40	27	2.05	15	25:75	2.2
12.	18	40	27	2.55	25	25:75	2.2
13.	21	42	22	2.05	15	75:25	2.0
14.	21	42	22	2.55	25	75:25	2.0
15.	21	42	22	2.05	25	25:75	2.0
16.	21	42	22	2.55	15	25:75	2.0
17.	28	52	25	2.30	20	50:50	1.1
18.	17	43	25	2.30	20	50:50	2.5
19.	19	36	30	2.30	20	50:50	1.9
20.	25	40	20	2.30	20	50:50	1.6
21.	22	38	25	2.30	20	100:0	1.7
22.	22	38	25	2.30	20	0:100	1.7
23.	22	38	25	1.80	20	50:50	1.7
24.	22	38	25	2.80	20	50:50	1.7
25.	22	38	25	2.30	10	50:50	1.7
26.	22	38	25	2.30	30	50:50	1.7
27.	22	38	25 ₉₉	2.30	20	50:50	1.7

THIS TECHNIQUE WILL HELP SELECT A PRODUCT THAT
OPTIMIZES PHYSIOLOGICAL SATISFACTION. SPECIFICALLY,
IT WILL:

- IDENTIFY THE COMBINATION OF VARIABLES THAT
MAXIMIZE PHYSIOLOGICAL SATISFACTION ---
AGAINST THE TOTAL MARKET OR AGAINST A TARGET
MARKET
- ALLOW US TO MAXIMIZE CONSUMER SATISFACTION
WITHIN GIVEN TAR/NICOTINE/OTHER LABORATORY
MEASURE CONSTRAINTS
- ALLOW MAXIMIZATION WITH A MINIMIZATION OF
COSTS

X. INNOVATIVE SUPPORTING
PROGRAMS

50037 1118

HUMPHREY

BURTON

in

produced by RJRTC
by RJRTC

THREE YEAR PLAN

MERCHANDISING, PLANNING AND DEVELOPMENT

IN THE MERCHANDISING, PLANNING AND DEVELOPMENT OF NEW BRAND CONCEPTS, OUR GOAL IN 1976 WAS TO IMPLEMENT SPECIFIC SUPPORTING PROGRAMS FOR THE NEW PRODUCT INTRODUCTIONS. THEN TO TAKE THAT INFORMATION GAINED AND DEVELOP AN ON-GOING LIBRARY OF REFERENCE MATERIAL IN THE AREAS OF PACKAGING, SAMPLING, COUPONING AND MERCHANDISING WITH APPLICATION TO LATER CONCEPTS OR IMPROVING PRESENT TECHNIQUES.

produced by R.I.R.T.C.
produced by R.I.R.T.C.

BURTON
HUNTER

THREE YEAR PLAN
MERCHANDISING, PLANNING AND DEVELOPMENT

REVIEW OF 1976 GOAL:
INNOVATIVE SUPPORT FOR NEW BRANDS
LIBRARY OF PACKAGING, SAMPLING, COUPONING
AND MERCHANDISING

REVIEW OF HIGHLIGHTS

A TOTAL MERCHANDISING PROGRAM WAS PUT TOGETHER FOR NOW, TESTING SPECIFIC TECHNIQUES AND DEVELOPING NEW ONES. THE POS MATERIALS CONVEYED THE UPSCALE BRAND IMAGE - ELEGANTLY AND IN A SOPHISTICATED MANNER. OUR PERSONALIZED SAMPLING WITH 2 COMPLIMENTARY PACKS IN A GIFT BOX, TARGETED SPECIFIC GROUPS AND ACHIEVED VERY HIGH AWARENESS LEVELS FOR THE BRAND.

VARIOUS COUPONING TESTS WERE MADE, A NEW PACKAGING APPROACH WAS DESIGNED IN THE FORM OF A DECORATOR DESK ITEM AND PORTIONAL PIECES FOR BARS AND COUNTRY CLUBS WILL PROVIDE A BRAND AWARENESS IN AREAS PREVIOUSLY UNTAPPED FOR ADDITIONAL CIGARETTE SALES.

ABOVE AND BEYOND SPECIFIC BRAND RELATED PROGRAMS, INVESTIGATIONS WERE BEGUN INTO SUCH AREAS AS: BOX STYLES, GRAPHIC AND TEXTURAL MATERIALS WITH A COMMITTEE TO EVALUATE THE FINDINGS AND DEVELOP THEIR OWN IDEAS. EUROPEAN EXAMINATIONS WERE MADE TO DETERMINE THE RELATIONSHIP TO PRESENT U.S. TECHNIQUES. NUMEROUS DESIGN FIRMS AND PROMOTION HOUSES PRESENTED INFORMATION FOR FUTURE REFERENCE. THE AREA OF VENDING WAS EXPLORED, CHALLENGED AND TESTED. THE SATELLITE VENDING UNIT IS DESIGNED TO INCREASE SHARE OF MARKET FOR BOTH NEW AND EXISTING BRANDS VIA ADDITIONAL VENDING DISTRIBUTION.

50037 1121

52614 7751

REVIEW OF HIGHLIGHTS

1. AS PERTAINING TO NOW

POS MATERIALS - IMAGERY

SAMPLING - STREET/PERSONALIZED

COUPONING - CO-OP/SUNDAY SUPPLEMENTS

PACKAGING - CANISTER

PROMOTION - BAR ITEMS

2. LIBRARY INVESTIGATIONS

BOX STYLES

MATERIAL INVESTIGATION WITH RJR ARCHER

PACKAGING COMMITTEE

EUROPEAN INVESTIGATION

SUPPLIER VISITATIONS

VENDING TEST

produced by RJRTC
produced by RJRTC

BURTON

THREE YEAR ACTION PLAN

TO EXTEND THE FINDINGS AND DEVELOP NEW PROGRAMS IN THE NEXT THREE YEARS, WE HAVE CATEGORIZED OUR PLANNING AND DEVELOPMENT INTO FIVE MAIN AREAS. THESE INCLUDE MERCHANDISING/SALES PROMOTION, BRAND NAME REGISTRATION, PACKAGING, SAMPLING, AND COUPONING. GENERALLY SPEAKING, EACH OF THESE AREAS WILL HAVE ITS OWN OBJECTIVES AND GUIDELINES WITHIN WHICH TO DEVELOP NEW BRAND REINFORCEMENTS AND PROVIDE A FIRMLY BASED INFORMATION AND IMPLEMENTATION SOURCE FOR THE ENTIRE RJR TOBACCO FAMILY. WE WILL BEGIN WITH MERCHANDISING AND SALES PROMOTION.

produced by RJRTC
Produced by RJRTC

BURTON

HUNTER

THREE YEAR ACTION PLAN

1. PLANNING AND DEVELOPMENT CONCENTRATED
IN FIVE MAJOR AREAS.

MERCHANDISING, SALES PROMOTION

BRAND NAME REGISTRATION

PACKAGING

SAMPLING

COUPONING

2. EACH AREA HAS ITS OWN OBJECTIVES FOR
MAXIMUM IMPACT IN THE INTRODUCTION OF NEW
BRAND CONCEPTS..

3. INFORMATION AND IMPLEMENTATION SOURCE
TO RJR TOBACCO FAMILY.

MERCHANDISING/SALES PROMOTION

NEW PRODUCTS

OBJECTIVES

OUR PRIMARY OBJECTIVE IN THE MERCHANDISING AND PROMOTING OF A NEW BRAND IS TO FORCE CONSUMER ACTION AT THE POINT-OF-SALE. WE MUST PROVIDE THE INCENTIVE TO BUY IMMEDIATELY. SO POS PIECES MUST BE DESIGNED TO STOP THE CONSUMER.

OUR SECOND OBJECTIVE IS TO INCREASE AWARENESS OF THE BRAND. THE MERCHANDISING PIECES MUST BE OF THE CALIBER THAT PROVIDE HIGH RECALL. THEY ACT ON THE CONSUMER ONCE HE HAS STOPPED.

AND THIRD, WE MUST CONVEY THE BRANDS IMAGE THROUGH POS MATERIALS. THE CONSUMER MUST RELATE TO A PRODUCT STATEMENT, WHAT THE BRAND SAYS ABOUT THE PERSON WHO SMOKES IT. SO IT MUST DO SOMETHING TO THE CONSUMER ONCE HE LEAVES THE STORE.

MERCHANDISING/SALES PROMOTION

NEW PRODUCTS

OBJECTIVES

1. GENERATE TRIAL
2. INCREASE AWARENESS
3. CONVEY THE BRAND'S IMAGERY

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

MERCHANDISING/SALES PROMOTION

AREAS OF PURSUIT

THREE YEAR INVESTIGATION AND IMPLEMENTATION

TO CARRY OUT THE MERCHANDISING AND SALES PROMOTION OBJECTIVES, WE SEE FOUR MAIN AREAS OF INVESTIGATION AND IMPLEMENTATION.

FIRST, WE WILL CONSIDER THE POS PLACEMENT CATEGORIES OF A NEW BRAND WITHIN THE RETAIL MARKET. BY FASHIONING POINT-OF-SALE PIECES DESIGNED SPECIFICALLY FOR SELF SERVICE OUTLETS, WE CAN CAPITALIZE ON THE BEST PLACEMENTS POSSIBLE FOR NEW BRAND INTRODUCTIONS. IN NON-SELF-SERVICE OUTLETS, PACKAGES ARE OFTEN BEHIND COUNTERS OR IN VENDING MACHINES. BY DESIGNING SPECIALIZED SELLING PIECES WITH A LOOK OF QUALITY, PLACEMENTS OF ADVERTISING ARE OBTAINED SO THAT BOTH THE CONSUMER AND RETAILER BENEFIT AND RJR INCREASES BRAND SALES.

MERCHANDISING/SALES PROMOTION

AREAS OF PURSUIT

THREE YEAR INVESTIGATION AND IMPLEMENTATION

1. PLACEMENT CATEGORIES

- SELF-SERVICE OUTLETS
- NON-SELF-SERVICE OUTLETS

SECONDLY, WE WILL INVESTIGATE ALL ASPECTS OF UNIQUENESS FOR ADDED IMPACT AT THE POINT-OF-SALE. MERCHANDISING MUST WORK HARDER IN A RETAIL OUTLET BECAUSE IT MUST STAND OUT FROM THE COMPETITIVE BRANDS AND EVERY OTHER ITEM IN THE STORE. BY INVESTIGATING MATERIALS, THE BEST COLORATION, SHAPES OF UNIQUENESS, EVEN MOTION AND SOUND, THE MOST UNUSUAL AND DYNAMIC PROMOTIONAL PIECES CAN BE CREATED FOR A SPECIFIC NEW BRAND CONCEPT AND PLACE THE RJR BRAND AHEAD OF ANYTHING ELSE IN THE FIELD.

produced by RJRTC
financed by RJRTC
in

BURTON

HUMAN

CHART #63

produced by RJRTC
produced by RJRTC

BURTON

2. IMPACT UNIQUENESS

- MATERIALS
- COLORS
- CONFIGURATIONS
- MOTION
- SOUND

HUMPHREY

THE BEST WAY TO CORRELATE THESE EFFORTS IS THROUGH THE IMS MERCHANDISING PROGRAMS PRESENTLY BEING USED IN THE RETAIL OUTLETS. WITH POS MATERIALS DESIGNED TO MEET TRADE NEEDS, WE CAN INCORPORATE THE INDIVIDUAL BRAND'S IMAGE WITH INCREASED PACK AND CARTON SALES. A PERFECT EXAMPLE OF THIS WAS THE NOW 16 PACK DISPLAY. WE STRIVE TO CREATE PRODUCT UNIQUENESS IN EACH OF THE RJR BRANDS THROUGH PRINT ADVERTISING. WE MUST TRANSFER THAT UNIQUENESS TO THE RETAIL OUTLETS AS WELL. BY UTILIZING ALL ASPECTS OF PROMOTIONAL ACTIVITIES AND BUILDING ONE ON ANOTHER, WE CAN KEEP THE CONSUMER PERSONALLY INVOLVED THROUGHOUT THE ENTIRE YEAR.

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

3. IMS MERCHANDISING CORRELATION

- POS TAILORED TO MEET TRADE NEEDS.
- INDIVIDUALIZED IMAGERY IN PACK AND CARTON SALES.

CHART #65 - TRADE AND CONSUMER PROMOTIONS

CORPORATE DISPLAY PAYMENTS FOR NEW BRANDS COULD BE ROUTED TO THE BEST PROGRAMS POSSIBLE RATHER THAN UTILIZE THE CONVENTIONAL ALLOCATION AS DO THE EXISTING BRANDS.

SO WE WILL BEGIN INVESTIGATION INTO TRADE AND CONSUMER PROMOTIONS THAT WILL BE BASED ON PERFORMANCE DURING THE INTRODUCTION OF A NEW PRODUCT.

CURRENT PAYMENT PROGRAMS REVEAL THAT NEW BRANDS ARE FLOODING THE MARKET WITH MONETARY SUPPLEMENTS FOR THE PLACEMENT OF A NEW ITEM. WE WILL INVESTIGATE METHODS BY WHICH WE CAN REWARD THE TRADE FOR GOING ABOVE AND BEYOND SIMPLY PLACING THE BRAND-RETAILERS CAN EARN MORE BY DOING MORE.

IN ADDITION, THE CONSUMER WILL BE REWARDED IN THEIR PURCHASE. IN DOING THIS WE SEE UTILIZING SUCH PROGRAMS AS STORE TIE-INS, CONSUMER PRICE INCENTIVES, AND UTILIZING CO-OP ADVERTISING IN INDIVIDUAL MARKETS OR SPECIFIC CHAINS.

SPECIFIC PROGRAMS INVOLVING POS MATERIALS AND MERCHANDISING TOOLS, WILL BE ORGANIZED ON AN ANNUAL BASIS TO REINFORCE ALL ASPECTS OF A NEW INTRODUCTION, AND PROVIDE THE PATH FOR CONTINUED SALES.

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

4. TRADE AND CONSUMER PROMOTIONS BASED
ON PERFORMANCE.

PAYMENT PROGRAMS

STORE TIE-INS

CO-OP ADVERTISING

BRAND NAME REGISTRATION

BANK, NEW BRANDS, BUFFER

OBJECTIVES

IN THE AREAS OF BRAND NAME REGISTRATION, WE INTEND TO MAINTAIN OUR BANK OF NAMES, DEVISE NEW NAMES AND PROVIDE THE BUFFER NAMES NECESSARY TO PRE-EMPT ALL COMPETITIVE ASSOCIATION WITH NAME CANDIDATES. SO OUR OBJECTIVES ARE THREEFOLD.

1. TO INSURE THAT ALL NEW PRODUCT CONCEPTS HAVE THE MOST MEANINGFUL PRODUCT NAME AVAILABLE.
2. TO INSURE THAT COMPETITION CANNOT TIE-IN TOO CLOSELY WITH OUR NEW NAME CANDIDATES OR PRE-EMPT US WITH CLOSELY IDENTIFIED NAMES.
3. TO DEVISE NEW METHODS OF REGISTRATION TO OBTAIN PROTECTION IN THE MARKETPLACE.

BRAND NAME REGISTRATION

BANK, NEW BRANDS, BUFFER

OBJECTIVES

1. INSURE CONCEPTS HAVE MEANINGFUL NAMES
2. PRE-EMPT COMPETITIVE CHALLENGES
3. NEW REGISTRATION METHODS

BRAND NAME REGISTRATION

BANK, NEW BRANDS, BUFFER

AREAS OF PURSUIT

FIRST, WE WILL CONTINUE TO UPGRADE AND ADD TO OUR PRESENT BANK OF NAMES. WE WILL DO THIS THROUGH OUR PRESENT SYSTEM OF SUGGESTED CANDIDATE SEARCHES AND REGISTRATION, BUT WILL EXTEND CANDIDATE POSSIBILITIES THROUGH CATEGORY INVESTIGATIONS.

MAJOR CATEGORIES TO BE EXAMINED INCLUDE MUSIC, FASHION, SPORTS AND PRODUCT BENEFITS. BY CATEGORIZING THESE NAMES, THE BANK CAN BE TAPPED WHEN NEW BRAND CONCEPTS ARISE. THIS SHOULD LOWER CHANCES OF PREEMPTION IN THE MARKETPLACE.

A SECOND METHOD OF UPDATING OUR BANK WILL BE THROUGH INTERNATIONAL COORDINATION. WE WILL KEEP OUR INTERNATIONAL TOBACCO COMPANY COUNTERPARTS INFORMED OF OUR NAME CANDIDATES AND BANK REVISIONS. THEIR NAME CANDIDATES WILL BE EXAMINED FOR POSSIBLE U.S. REGISTRATION AS WELL.

AGENCY SUGGESTIONS, AND ALL OTHER IN-HOUSE POSSIBILITIES WILL CONTINUE TO BE BANKED.

BRAND NAME REGISTRATION

BANK, NEW BRANDS, BUFFER

AREAS OF PURSUIT

I. BANK MAINTENANCE

A. NAME CATEGORIES

- MUSIC
- FASHION
- SPORTS
- PRODUCT BENEFITS

B. INTERNATIONAL COORDINATION

- INFORMATION AND CANDIDATE EXCHANGE

C. AGENCY, LEGAL, MARKETING, TOBACCO
DEVELOPMENT, AND SALES SUGGESTIONS

produced by RJRTC
produced by RJRTC

BURTON

THEN BUFFER NAMES WILL BE CHOSEN TO
REDUCE COMPETITIVE TIE-INS. WE WILL
INVESTIGATE METHODS OF FULL COVERAGE
THROUGH A COMPUTER FEED-BACK METHOD,
WHERE LETTER VARIANCES, ANONYMS AND
SYNONYMS ARE EXAMINED, THE MOST VIABLE
OF WHICH WILL BE REGISTERED ALONG WITH
THE SUGGESTED CANDIDATE.

produced by RJRTC
in
**BURTON
HUMPHREY**

2. BUFFER NAMES

A. PRESENT METHODS

B. INVESTIGATE COMPUTER

*FEED BACK

CHART #69 - NEW METHODS OF REGISTRATION

NEW METHODS OF REGISTRATION WILL BE EXAMINED FOR POSSIBLE USE WHEN LEGAL FEELS CERTAIN NAMES ARE UNREGISTERABLE OR AVAILABLE FOR USE BY ANYONE. EXAMPLES OF THIS INCLUDE TALLS, LIGHTS, AND ONE.

LOGOS WILL BE DEVELOPED TO INCORPORATE THE DESIRED NAME WITH GRAPHICS. LOGOS CAN BE LEGALLY PROTECTED. FIRST USE CLAIMS OFTEN GIVE THE ADVANTAGE FOR USE BEFORE THE COMPETITOR CAN TAKE ACTION. THIS OF COURSE IS DEPENDENT UPON THE TIMING, THE GEOGRAPHICAL SCOPE OF THE CANDIDATE AND THE LEVELS OF INTENSITY USED TO INTRODUCE A NEW BRAND WITH AN UNREGISTERABLE NAME.

IN ALL REGISTRATIONS, LEGAL WILL BE KEPT INFORMED OF CANDIDATE PRIORITIES. AN INTERNAL BRAND NAME REGISTRATION FORM HAS BEEN DEVISED THIS YEAR. THIS PROCEDURE IS DESIGNED TO FACILITATE THE REGISTRATION PROCESS AND SET PRIORITIES FOR PURSUIT.

CHART #69

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

3. NEW METHODS OF REGISTRATION

A. LOGO STYLES

B. FIRST USE CLAIMS

PRIORITIES

produced by RJRTC
in RJRTC

PACKAGING

NEW PRODUCTS

OBJECTIVES

OUR INTENTION IN PACKAGING IS TO DEVELOP NEW DESIGN CANDIDATES THAT ENHANCE EACH NEW PRODUCT CONCEPT. WE WILL STRIVE TO GENERATE MAXIMUM PROFITS THROUGH THIS DEVELOPMENT AND EXAMINE ALL TECHNOLOGICAL ADVANCEMENTS AND THEIR IMPACT ON FUTURE PACKAGING REQUIREMENTS.

IN DOING THIS, WE HAVE UTILIZED THE DISCIPLINES CREATED IN THE 1976 PLANNING FOR THE MOST ADVANTAGEOUS METHODS OF PACKAGING INVESTIGATIONS AND DEVELOPMENT.

THEY ARE AS FOLLOWS:

CHART #70

produced by RJRTC
Produced by RJRTC

BURTON

HUMPHREY

PACKAGING

NEW PRODUCTS

OBJECTIVES

1. ENHANCEMENT OF CONCEPT
2. MAXIMIZE PROFITS
3. DEVELOP AND REFINE TECHNOLOGY

1976 PACKAGING GUIDELINES

1. MATERIAL AVAILABILITIES. WE MUST MAKE SURE THAT OUR TOOLS ARE VIABLE SELECTIONS FROM THE INFINITE VARIETIES AVAILABLE.

2. IT IS HIGHLY DESIRABLE FROM A CORPORATE VIEWPOINT TO UTILIZE IN-HOUSE CAPABILITIES WHEREVER POSSIBLE.

3. ARE THERE ADEQUATE LEAD TIMES? WE MUST PREVENT RUSH OR "TAKE WHAT WE CAN GET" CIRCUMSTANCES. ALL DECISIONS MUST BE MADE FROM A FULLY THOUGHT OUT BASE.

4. IS COST IN LINE WITH CORPORATE PROFIT STRUCTURES? CAN WE GENERATE A RETURN FOR OUR INVESTMENTS?

THE PROCESS IS CONTINUING AND WE WILL ADDRESS THESE DISCIPLINES AS WE COMPILE OUR ON-GOING LIBRARY OF INFORMATION. THE FOLLOWING CHARTS ILLUSTRATE THE MAJOR AREAS OF CONCENTRATION AFFECTING PACKAGING.

CHART #71

1976 PACKAGING GUIDELINES

1. MATERIAL AVAILABILITIES
2. IN-HOUSE CAPABILITIES
3. ADEQUATE LEAD TIMES
4. COST IN LINE WITH CORPORATE
PROFIT STRUCTURES

produced by RJRTC
in
BURTON

HUMPHREY

PACKAGING
NEW PRODUCTS
AREAS OF PURSUIT

PACKAGING MATERIALS, STRUCTURES AND MACHINERY CAPABILITIES MUST BE EVALUATED. CURRENT CUP AND BOX STYLES HAVE EVOLVED FROM THREE BASIC RESTRICTIONS: 1) TAX STAMPING, 2) MANUFACTURING SPEED, AND 3) INDUSTRY NORM, ALL OF WHICH HAVE GUIDED DESIGN AND CREATIVITY.

IN ORDER TO PROVIDE THE MOST AESTHETIC AND INNOVATIVE FUTURE PACKAGING DESIGNS, WE MUST HAVE THE TOOLS WITH WHICH TO WORK, BEYOND THE SET PATTERN INTO WHICH WE HAVE FALLEN. TO PROVIDE INFORMATION FOR DEFINING MORE CHALLENGING LIMITATIONS, WE HAVE FORMED THE NEW PACKAGE DEVELOPMENT MANAGEMENT COMMITTEE. THIS ORGANIZATION IS MADE UP OF REPRESENTATIVES FROM MARKETING, TOBACCO DEVELOPMENT, MANUFACTURING, MECHANICAL DEVELOPMENT, AND PURCHASING. IT HAS BEEN FORMED TO EXAMINE, SUGGEST AND EVALUATE ALL PACKAGING POSSIBILITIES. FOR EXAMPLE, A CUP-BOARD MANUFACTURING FIRM PRESENTED POSSIBILITIES OF FORMING A RIGID CUP PACK WITH ROUNDED SIDES. THE COMMITTEE EVALUATED THIS INFORMATION IN TERMS OF HANDLING SPEED, GRAPHIC ADVANTAGES, COSTS AND CONSUMER ADVANTAGES, AND DETERMINED THAT IT WAS NOT AS FAST AS THE PRESENT PACKING OPERATION BUT THE GRAPHIC ADVANTAGES MAY OUT-WEIGH THE SLOWER SPEED. THE INFORMATION WAS PLACED IN THE LIBRARY FOR FUTURE REFERENCE. A TEST IS CURRENTLY BEING ASSEMBLED FOR COMPARING VARIED BOX OPENINGS. THIS INVOLVES A SLIDE PACK, AND A PUSH-UP-BOTTOM PACK. WE WILL FIELD THIS CONSUMER TEST BY OCTOBER 1, AND THESE FINDINGS WILL GO INTO THE LIBRARY FOR UTILIZATION BY ANY BRAND DESIRING A BOX STYLE PACKAGE.

MERCHANDISING, PLANNING AND DEVELOPMENT HAS BEGUN A PROGRAM WITH R&D AND THE ARCHER PACKAGING DIVISION TO DETERMINE ALL FEASIBLE MATERIALS WITH WHICH TO WORK, RELATIVE TO TEXTURES AND GRAPHICS. THE INFORMATION WILL BE PROVIDED TO THE COMMITTEE ON AN ON-GOING BASIS AND THE BEST SELECTIONS WILL BE MRD TESTED. WE ARE, AGAIN, STAYING WITHIN THE DISCIPLINES MENTIONED.

TO SUPPLEMENT IN-HOUSE SUGGESTIONS, WE WILL KEEP ABREAST OF ALL OUTSIDE AVAILABILITIES BY ATTENDING SEMINARS, LECTURES AND VISITING PACKAGING SUPPLIER FACILITIES TO GAIN INSIGHT INTO THE BEST CANDIDATES POSSIBLE.

CHART #72

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

PACKAGING

NEW PRODUCTS

AREAS OF PURSUIT

EVALUATION OF MATERIALS, STRUCTURES,
MACHINERY

A. COMMITTEE INVESTIGATIONS

B. RJR ARCHER INVOLVEMENT

C. SEMINAR AND OUTSIDE INFORMATION

produced by RJRTC
produced by RJRTC
BUREAU OF RESEARCH
INDUSTRY

WE MUST TAKE A CLOSE LOOK AT THE PRESENT TECHNOLOGICAL LIMITATIONS. FOR EXAMPLE, TAX STAMPING HAS PROVEN TO BE A HANDICAP IN PACKAGE CONFIGURATIONS. WE WILL MAKE A THOROUGH INVESTIGATION TO DETERMINE CARTON SIZE VARIABLES, PACK WIDTH VARIABLES, CIGARETTE COUNT VARIABLES, BULK PACKING AND VENDING POSSIBILITIES. WITH THE ADVENT OF UPC FOR INVENTORY CONTROLS, WE MUST DETERMINE THE ADVANTAGES OR DISADVANTAGES IN PACKAGING QUANTITIES FOR THE FUTURE. JUST WHAT DOES THE UPC MEAN TO US? CAN WE USE IT TO OUR ADVANTAGE, AS WILL THE RETAILER? WHAT OTHER TECHNICAL BREAKTHROUGHS WILL COME IN THE NEXT THREE YEARS? WHAT EFFECT WILL THEY HAVE ON PACKAGING? WE WILL EXAMINE PRESENT LIMITATIONS WITH AN EYE FOR FUTURE CHANGE. TAX STAMPING WILL CHANGE AS PROCEDURES ARE UPDATED. WE MUST STAY ABREAST OF THESE EFFECTS ON PACKAGING.

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

2. PRESENT TECHNOLOGICAL LIMITATIONS

- A. TAX STAMPING
- B. UPC
- C. FUTURE BREAK THROUGHS

INCLUDED IN THE AREA OF STRUCTURAL EXAMINATIONS ARE SPECIALIZED DESIGNS FOR PACKAGING VARIED TOBACCO PRODUCTS SUCH AS WET SNUFF, SCRAP AND SMOKING TOBACCO PELLETS.

THEN, AS WE BECOME AWARE OF MATERIAL TRENDS, WE INTEND TO PROJECT OUR KNOWLEDGE WORLDWIDE. BY COMPARING PACKAGE VIABILITIES AND MACHINERY CAPABILITIES, WE CAN DEVELOP A CONGRUENT AND RELIABLE PACKAGING ORGANIZATION FOR THE RJR TOBACCO FAMILY. ALL OF THE INFORMATION GATHERED IN OUR INVESTIGATIONS WILL BE DOCUMENTED IN THE LIBRARY AND AVAILABLE FOR USE BY ANY OF THE RJR TOBACCO BRANDS. THIS LIBRARY WILL BE AN ON-GOING RECORD OF THE BEST SELECTIONS, IN LINE WITH THE CORPORATE GUIDELINES.

produced by RJRTC
produced by RJRTC

BURTON

3. SPECIALIZED PACKAGING

A. TOBACCO VARIABLES - COMPONENT
REQUIREMENTS

B. INTERNATIONAL INFLUENCES

4. INFORMATION LIBRARY

IN NEW PRODUCT SAMPLING OUR #1 OBJECTIVE
IS TO GAIN PRODUCT TRIAL AND AWARENESS BY
DISTRIBUTING THE BRAND IN THE HIGHEST
POTENTIAL MARKETS.

THEN WE MUST INSURE THAT THE PROPER PEOPLE
RECEIVE THE SAMPLES IN THE MOST EFFECTIVE
AND COST EFFICIENT MANNER.

produced by RJRTC
produced by RJRTC

BURTON

SAMPLING

NEW PRODUCTS

OBJECTIVES

1. GAIN PRODUCT TRIAL AND AWARENESS
AMONG THE HIGHEST POTENTIAL MARKET
AUDIENCES.
2. DELIVER SAMPLES TO THE PROPER
PEOPLE IN THE MOST EFFECTIVE AND
COST EFFICIENT MANNER.

CHART #76

SAMPLING
NEW PRODUCT - TESTS
AREAS OF PURSUIT

TO DO THIS, WE WILL DEVELOP INDIVIDUALIZED TESTING TECHNIQUES AND UTILIZE THE INFORMATION GATHERED IN OUR CORPORATE SAMPLING PROGRAMS.

THE EXACT TESTS WOULD BE MADE IN THE AREAS OF STREET SAMPLING--WHERE PRODUCT IS DISTRIBUTED TO PASSERS-BY IN THE HIGHEST POTENTIAL MARKET AREAS.

PRODUCT AFFILIATE SAMPLINGS, WHICH WOULD TIE THE BRAND INTO A PRODUCT NORMALLY USED BY A SMOKER, SUCH AS CIGARETTE CASES, OR LIGHTERS.

DIRECT MAIL SAMPLING LIKE OUR 2 PACK MAILERS WITH A SALUTATION/OR SPECIALIZED CO-OP MAILINGS AS IS DONE BY PROGRESSIVE GROCER.

BANQUET AND CONVENTION SAMPLING COULD DISTRIBUTE PRODUCT TO SPECIFIC GROUPS INDICATED BY THE MEETING THEME AND THEREFORE TARGETED MORE EFFECTIVELY.

OTHER SPECIALIZED SAMPLING PROGRAMS COULD INCLUDE HOTEL SAMPLES, SAMPLING AT FAIRS, HOSPITALITY ROOM DISTRIBUTION AND EVEN EXTENDED CELEBRITY SAMPLING TO TIE-IN WITH THE BRAND'S IMAGE AND GAIN ADDITIONAL MEDIA EXPOSURE.

COMBINATIONS OF WAVES OF THESE PROGRAMS WILL BE DESIGNED FOR EACH YEAR'S EFFORTS AND THE MOST EFFECTIVE MIX CAN THEN BE APPLIED, AS APPROPRIATE, TO SPECIFIC NEW BRAND CONCEPTS.

THIS SAMPLING SUPPORT WILL CONTROL ENVIRONMENTS AND ASSURE TRIAL, BRAND AWARENESS, AND CONVERSION TO FACILITATE A NEW BRAND'S FULL DEVELOPMENT.

SAMPLING

NEW PRODUCT - TESTS

AREAS OF PURSUIT

BURTON

1. TESTING OF NEW PROGRAMS
 - A. STREET SAMPLING
 - B. PRODUCT AFFILIATE
 - C. DIRECT MAIL
 - D. PROGRESSIVE GROCER
 - E. BANQUET AND CONVENTION
 - F. SPECIALIZED SAMPLING
 - HOTELS
 - FAIRS
 - HOSPITALITY ROOMS
 - CELEBRITY

2. SAMPLING MIX

- A. WAVE COMBINATIONS
- B. PROPER SCHEDULING

COUPONING

NEW PRODUCTS

OBJECTIVES

COUPONING IS FOR THE PURPOSE OF STRENGTHENING TRIAL
AND CONVERTING THE CONSUMER TO A NEW BRAND.

SECONDLY, WE MUST MOVE THE PACK TRIERS INTO CARTON
BUYERS BY DELIVERING THESE COUPONS TO THE PROPER
PEOPLE IN THE MOST COST EFFICIENT MANNER.

52614 7788

50037 7158

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

COUPONING

NEW PRODUCTS

OBJECTIVES

1. OBTAIN TRIAL AND CONVERSION
2. MOVING PACK TRIERS INTO CARTON BUYERS
3. DELIVER COUPONS TO PROPER PEOPLE IN
THE MOST COST EFFICIENT MANNER.

COUPONING
NEW PRODUCTS
AREAS OF PURSUIT

WE WILL DEVELOP INDIVIDUALIZED COUPONING EFFORTS AND APPLY THE INFORMATION GAINED TO CORPORATE COUPONING PROGRAMS.

AS WAS DONE IN 1976, WE WILL CONTINUE TO TEST PROGRAMS SUCH AS SOLO AND CO-OP DIRECT MAIL-COUPONING, INTERCEPT COUPON DISTRIBUTION, AND SUNDAY SUPPLEMENTS OF ANSWER CARDS, SOLO AND CO-OP FREE STANDING INSERTS.

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

COUPONING

NEW PRODUCTS

AREAS OF PURSUIT

DEVELOP INDIVIDUALIZED COUPONING EFFORTS
APPLYING MATERIAL GAINED IN CORPORATE
COUPONING PROGRAMS.

- A. DIRECT MAIL
- SOLO AND CO-OP
- B. SOLO DISTRIBUTION
- STREET AND INTERCEPT
- C. SUNDAY SUPPLEMENTS
- ANSWER CARD
 - SOLO AND CO-OP FREE STANDING INSERTS

CHART #79 - INVESTIGATE INNOVATIVE METHODS OF COUPONING

IN ADDITION WE WILL INVESTIGATE INNOVATIVE
COUPONING METHODS SUCH AS CROSSRUFF (OR PRODUCT
AFFILIATE), CASH REWARD PROGRAMS TO REDUCE MIS-
REDEMPTIONS, BOUNCE-BACK COUPONS IN PREMIUMS OR
PRODUCT SAMPLING, AND SUPER-MONEY PROGRAMS TIEING
IN WITH THE UPC METHOD OF INVENTORY COUNT. COUPON
CONFIGURATIONS WILL ALSO BE EXAMINED IN REGARD TO
SPECIALIZED INKS, AND UNUSUAL SHAPES OR MATERIALS.

produced by RJRTC
produced by RJRTC

BURTON

HUMPHREY

2. INVESTIGATE INNOVATIVE METHODS OF COUPONING

A. CROSSRUFF

- PRODUCT AFFILIATE

B. CASH REWARD PROGRAM

- TO REDUCE MISREDEMPTIONS

C. BOUNCE BACKS

- ALL OTHER PROGRAMS INCLUDING
PREMIUMS AND SAMPLING

D. SUPER MONEY

- ON PACK VALUE WITH REFUND

E. COUPON CONFIGURATIONS

- SPECIALIZED INKS
- SHAPES
- MATERIALS

produced by RJRTC
produce in RJRTC

EACH OF THE MENTIONED TESTS WILL OPEN OTHER
AVENUES OF EXAMINATION. BY ESTABLISHING THIS
INFORMATION IN A CENTRALIZED MANNER, WE WILL
DEVELOP FUTURE NEW BRAND PROGRAMS FROM A SOLID
BASE RATHER THAN PULLING PROGRAMS TO SOLVE
IMMEDIATE PROBLEMS.

BURTON

OUR GOAL AND OUR COMMITMENT FOR THE NEXT THREE
YEARS IS TO GENERATE, INVESTIGATE AND EVALUATE
NEW IDEAS AND EXPAND OUR LIBRARY OF KNOWLEDGE
IN THE TOTAL PROMOTION AREA.

THE RESULT WILL BE THE REFINEMENT OF INNOVATIVE
PROGRAMS WHICH CAN BE TAILORED TO SPECIFIC NEW
BRAND NEEDS AND ASSIST IN MAXIMIZING THE SALES
POTENTIAL.

SUMMARY

OUR GOAL AND OUR COMMITMENT FOR THE NEXT THREE YEARS IS TO GENERATE, INVESTIGATE AND EVALUATE NEW IDEAS AND EXPAND OUR LIBRARY OF KNOWLEDGE IN THE TOTAL PROMOTION AREA.

THE RESULT WILL BE THE REFINEMENT OF INNOVATIVE PROGRAMS WHICH CAN BE TAILORED TO SPECIFIC NEW BRAND NEEDS AND ASSIST IN MAXIMIZING THE SALES POTENTIAL.

produced by RJRTC
produced by RJRTC

BURTON

HUNTER

I

HUMPHREY

in

produced by R. H. H.

produced by RJR TC

in

HUMPHREY

SECRET

SECRET

No. 15 By _____

IMPLICATIONS AND ACTIVITIES ARISING FROM CORRELATION

OF SMOKE PH WITH NICOTINE INTACT, OTHER

SMOKE QUALITIES, AND CIGARETTE SALES

DEPOSITION
EXHIBIT
14

TRIAL EXHIBIT
13,155

1520

50931 4122

52614 7797

TABLE OF CONTENTS

	Page
I. INTRODUCTION; OBJECTIVES	1
II. HISTORICAL DATA, TRENDS AND BRAND COMPARISONS	1
III. SMOKE pH AND "FREE" NICOTINE	2
IV. SMOKE pH AND OTHER SMOKE QUALITIES	2
V. MARKETING CORRELATIONS AND IMPLICATIONS	3
VI. PRESENT RJR BRAND ACTIVITY	3
VII. RESEARCH ACTIVITIES, CURRENT AND PLANNED	4

LIST OF CHARTS

Chart No.	Title	Page
I	pH Concept and Scale	6
II	Puff-By-Puff pH Values: 1972 WINSTON and Marlboro 85	7
III	Average Maximum Smoke pH of Tobacco Materials and Products	8
IV	WINSTON vs Marlboro: Smoke pH vs Year of Manufacture	9
V	SALEM vs Kool: Smoke pH vs Year of Manufacture	10
VI	Filter Cigarette: Smoke pH vs Year of Manufacture	11
VII	Nonfilter Cigarettes: Smoke pH vs Year of Manufacture	12
VIII	pH, Nicotine and Smoke Quality	13
IX	FTC "Tar" and Smoke Nicotine - Marlboro vs WINSTON	14
X	FTC "Tar" and Smoke Nicotine - SALEM vs Kool	15
XI	Sales pH and Free Nicotine - Marlboro vs SALEM	16
XII	Sales pH and Free Nicotine - Kool vs SALEM	17
XIII	Market Share Change vs Free Nicotine in Smoke	18

APPENDICES

Appendix No.	Title	Page
I	Current Data of RJR and Competitive Brands	19
II	Memoranda From Marketing Research	22
III	Present Brand Activity	27

50931 4123

52614 7798

IMPLICATIONS AND ACTIVITIES ARISING FROM CORRELATION OF SMOKE pH WITH
NICOTINE IMPACT, OTHER SMOKE QUALITIES, AND CIGARETTE SALES

I. INTRODUCTION: OBJECTIVES:

This year the continuing, vigorous sales growth of various competitive cigarette brands, especially Marlboro and Kool, prompted an intensive study of the physical and chemical properties of those brands as compared with our brands. This was aimed at (1) identifying any significant property differences which might correlate with market performance, (2) measuring and monitoring such differences, and (3) learning how such differences are achieved, permitting us to achieve similar effects in our existing or new brands, if desired.

II. HISTORICAL DATA, TRENDS AND BRAND COMPARISONS

In seeking out significant property differences, we gathered available historical and current data on our brands and competitive brands, and made comparisons. It soon became apparent that in recent years, corresponding to recent sales performance, the most significant difference between our brands and Philip Morris brands and Kool has been in the area of smoke pH.

It will be recalled that smoke pH is a means for expressing, on a 0-14 scale, the degree of acidity or alkalinity of the smoke system. As smoke pH increases the system becomes more alkaline, and as smoke pH decreases the system becomes more acidic. Chart I* illustrates the pH concept, Chart II shows typical smoke pH curves from which average values are derived, and Chart III shows typical smoke pH data for various tobacco materials and products. Current data on smoke pH and related properties of our brands and competitive brands are given in Appendix I.

Our data show that smoke from our brands, and all other significant competitive brands, in recent years has been consistently and significantly lower in pH (less alkaline) than smoke from Marlboro and to a lesser degree Kool. Chart IV shows averaged smoke pH data for WINSTON vs. Marlboro over the years, Chart V shows a SALEM vs. Kool comparison, and Charts VI and VII show smoke pH data for some other major brands. All evidence indicates that the relatively high smoke pH (high alkalinity) shown by Marlboro (and other Philip Morris brands) and Kool is deliberate and controlled. This has raised questions as to: (1) the effect of higher smoke pH on nicotine impact and smoke quality, hence market performance, and (2) how the higher smoke pH might be accomplished.

*Charts I - XIII appear on pages 6 - 18.

III. SMOKE PH AND "FREE" NICOTINE

In essence, a cigarette is a system for delivery of nicotine to the smoker in attractive, useful form. At "normal" smoke pH, at or below about 6.0, essentially all of the smoke nicotine is chemically combined with acidic substances, hence is non-volatile and relatively slowly absorbed by the smoker. As the smoke pH increases above about 6.0, an increasing proportion of the total smoke nicotine occurs in "free" form, which is volatile, rapidly absorbed by the smoker, and believed to be instantly perceived as nicotine "kick". Chart VIII shows how proportion of "free" nicotine increases as pH goes higher.

Marlboro and Kool deliver about the same amounts of total smoke nicotine as do our comparable brands (Charts IX and X). However, Marlboro smoke is typically at pH 6.8-7.3, and Kool smoke is typically at 6.4-6.6, as compared with WINSTON smoke at pH 5.8-6.0 and SALEM smoke at pH 6.0-6.2. Thus, Marlboro and Kool smokes contain more "free" nicotine than our comparable brands, hence would be expected to show more instantaneous nicotine "kick" than our brands. Charts XI and XII show these relationships, along with some comparative sales data to be discussed later.

As a result of its higher smoke pH, the current Marlboro, despite a two-thirds reduction in smoke "tar" and nicotine over the years, calculates to have essentially the same amount of "free" nicotine in its smoke as did the early WINSTON. Over the same period, with some reduction in smoke pH and about two-thirds reductions in smoke "tar" and nicotine, the calculated amount of "free" nicotine in WINSTON smoke has decreased by about two-thirds. Thus, currently the calculated amount of "free" nicotine in Marlboro smoke is almost three times the amount in WINSTON smoke. In Kool vs. SALEM comparisons, much the same pattern emerges over time, although the differences are not as pronounced.

IV. SMOKE PH AND OTHER SMOKE QUALITIES

In addition to enhancing nicotine "kick", increasing the pH (increasing alkalinity) of smoke above about 6.0 causes other changes, particularly when the increase in smoke pH is achieved by adding ammonia to the blend. As smoke pH increases, in general starchy taste, mouth irritation, flue-cured flavor and Turkish flavor are diminished, and burley flavor and character are enhanced. It should be noted, however, that if the smoke pH goes much above 7 at normal total smoke nicotine levels (1.1-1.6 µg/cigt.), the amount of "free" nicotine becomes high, and this may cause harshness to the throat. These changes in smoke qualities with changes in smoke pH are illustrated in Chart VIII.

50931 4125

52614 7800

V. MARKETING CORRELATIONS AND IMPLICATIONS

Putting all of this together, we see that Marlboro (and other Philip Morris brands) as compared with WINSTON, our other brands and most other brands on the market shows: (1) higher smoke pH (higher alkalinity), hence increased amounts of "free" nicotine in smoke, and higher immediate nicotine "kick", (2) less mouth irritation, less stemmy taste and less Turkish and blue-cured flavor, and (4) increased burley flavor and character. Kool differs from SALEM in much the same way; however, the differences are not as great and the different levels of menthol and other factors tend to blur the picture.

These differences in nicotine impact and other smoke qualities arising from smoke pH increases would be expected to give rise to differences in consumer response, hence market performance. Our preliminary correlations strongly suggest that this is the case and that the vigorous, sustained growth in sales of Marlboro (and other Philip Morris brands) and Kool correlates closely with the increased smoke pH, hence increased "free" nicotine and nicotine impact of those brands. The accompanying reduction in mouth irritation and stemmy taste, and the increased burley character may also be factors.

Chart XI compares regular WINSTON to regular Marlboro in terms of smoke pH, calculated amount of "free" nicotine in smoke, and annual sales, for recent years. Chart XII compares regular SALEM to regular Kool in the same way. Chart XIII suggests that market performance of various brands correlates positively with total amount of "free" smoke nicotine, and that all brands surveyed having over about 35 micrograms of "free" nicotine/cigarette increased in market share in the period studied.

Subsequent detailed analysis by Marketing Research of our pH and "free" nicotine data along with sales data and other factors has confirmed the strongly positive correlation between "free" nicotine in smoke (determined by pH and total nicotine in smoke) and market share performance. Memoranda in Appendix II summarize the work of Marketing Research.

VI. PRESENT RJR BRAND ACTIVITY

If our data, correlations and conclusions are valid, then what has emerged is a rather new type of cigarette, represented by Marlboro and Kool, with high nicotine "kick", burley flavor, mildness to the mouth, and increased sensation to the throat, all largely the result of higher smoke pH. There is evidence that other brands which are selling well also have some of these attributes, particularly increased "free" nicotine impact. Because brands of the new type continue to show vigorous growth in sales; because a high proportion of beginning smokers are learning to like Marlboro, the leading brand of the new type; and because we have no current brand in this newly identified, major segment of the market; it has become appropriate for us to consider moving our present brands in the direction of the new type of cigarette and/or creating new products to compete directly in that area of the market.

50931 4126

52614 7801

Currently, Research, Tobacco Development and Marketing are collaborating on a series of tests aimed at exploring the newly-identified area of the market. The three basic types of products being prepared for evaluation are: (1) direct matches of Marlboro (NFO 10/15) and Kool (NFO 12/3), (2) WINSTON KING (NFO 10/15) and CAMEL FILTER (NFO 10/15) maintaining basic integrity but with smoke pH same as Marlboro, and (3) SALEM KING (NFO 12/3) maintaining basic integrity and menthol level but matching Kool in smoke pH. Work is planned, but NFO target dates are not yet established, for evaluation of similar smoke pH changes in DORAL and VANTAGE.

Additionally, a series of WINSTON-type cigarettes with step-wise increases in smoke pH, with the top-step well above the smoke pH of Marlboro, will be made for evaluation in the first quarter of 1974. Panel testing of these cigarettes should provide information on: (1) the minimum smoke pH change detected by the consumer, (2) changes in satisfaction factors and other smoke qualities associated with small pH changes, (3) the preferred pH range for smoke of a given, normal nicotine content, and (4) the break-over point, beyond which increasing the smoke pH gives smoke which is undesirable and too harsh to inhale.

A memorandum describing these activities and schedules in more detail appears in appendix III.

VII. RESEARCH ACTIVITIES, CURRENT AND PLANNED


As its part in this collaborative effort, Research has: (1) collected, correlated, interpreted and described to Management data on smoke pH of various brands, (2) developed and put into routine use improved methods for measurement of smoke pH, (3) discovered and reproduced the additives and procedures necessary to prepare the G-7 type of material used to increase the smoke pH of Marlboro, and (4) monitored, on a continuous basis, smoke pH and related properties of Marlboro, other Philip Morris brands, Kool, our brands, and some other competitive brands. Additionally, Research has substantial work in progress on (1) determining how smoke pH elevation and control are achieved in Kool, (2) developing a method for measuring pH of pipe smoke, (3) studying how smoke composition and other things change as pH is changed, and (4) evaluating various methods whereby smoke pH may be increased, with emphasis on ammonia treatments of stem materials.

Methods which may be used to increase smoke pH and/or nicotine "kick" includes: (1) increasing the amount of (strong) burley in the blend, (2) reduction of casing sugar used on the burley and/or blend, (3) use of alkaline additives, usually ammonia compounds, to the blend, (4) addition of nicotine to the blend, (5) removal of acids from the blend, (6) special filter systems to remove acids from or add alkaline materials to the smoke, and (7) use of high air dilution filter systems. Methods 1-3, in combination, represent the Philip Morris approach, and are under active investigation. The remaining methods appear less attractive or less practical, and are currently receiving less attention.

50931 4127

52614 7802

Thus in this continuing, collaborative effort, Research is providing measurements, data, interpretations, new information and discoveries, and technical consultation to TPD, Marketing, and others. We anticipate continued intensive effort in this potentially fruitful area throughout 1974.


Claude E. Teague, Jr.

sjbb

Xc: Dr. Murray Senkus

produced by RJRTC
in
HUMPHREY

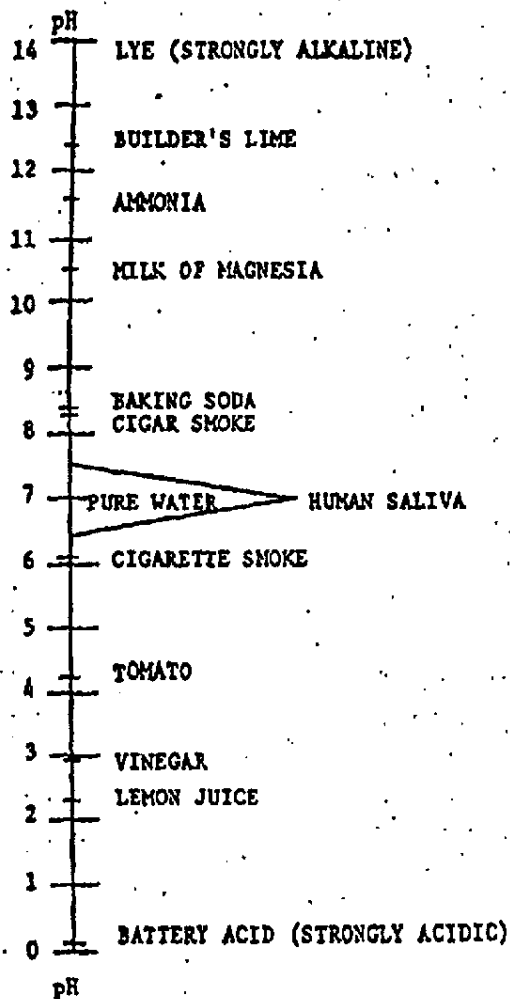
50931 4128

52614 7803

CHART I

PH CONCEPT AND SCALE

DEFINITION: pH IS A MEANS FOR EXPRESSING, ON A 0-14 SCALE, THE DEGREE OF ACIDITY OR ALKALINITY OF A SYSTEM.

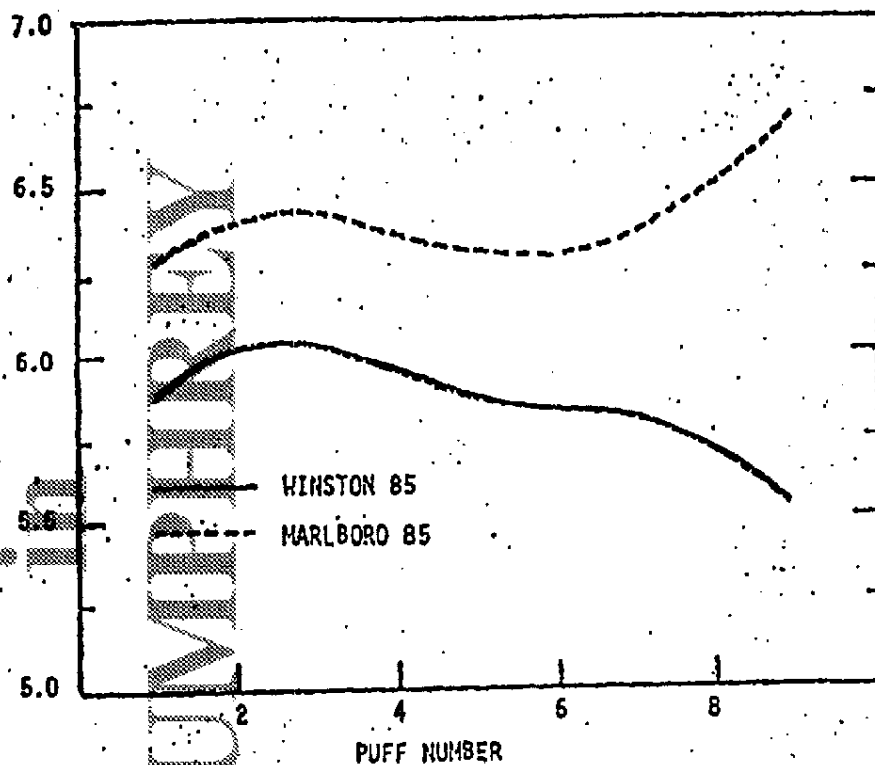


50931 4129

52614 7804

CHART II

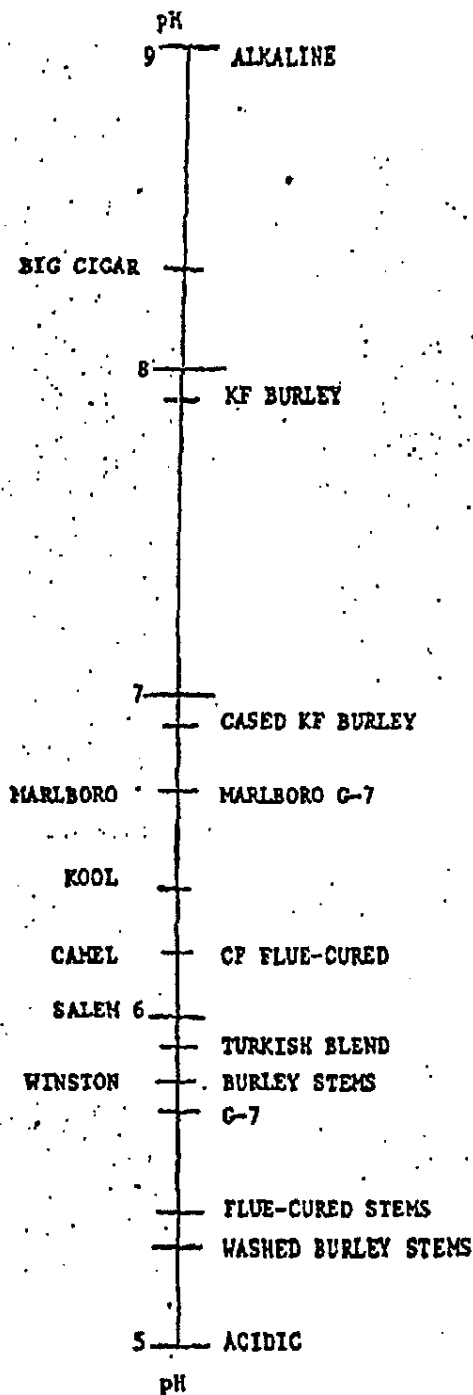
PUFF-BY-PUFF pH VALUES:
1972 WINSTON AND MARLBORO 85



50931 4130

52614 7805

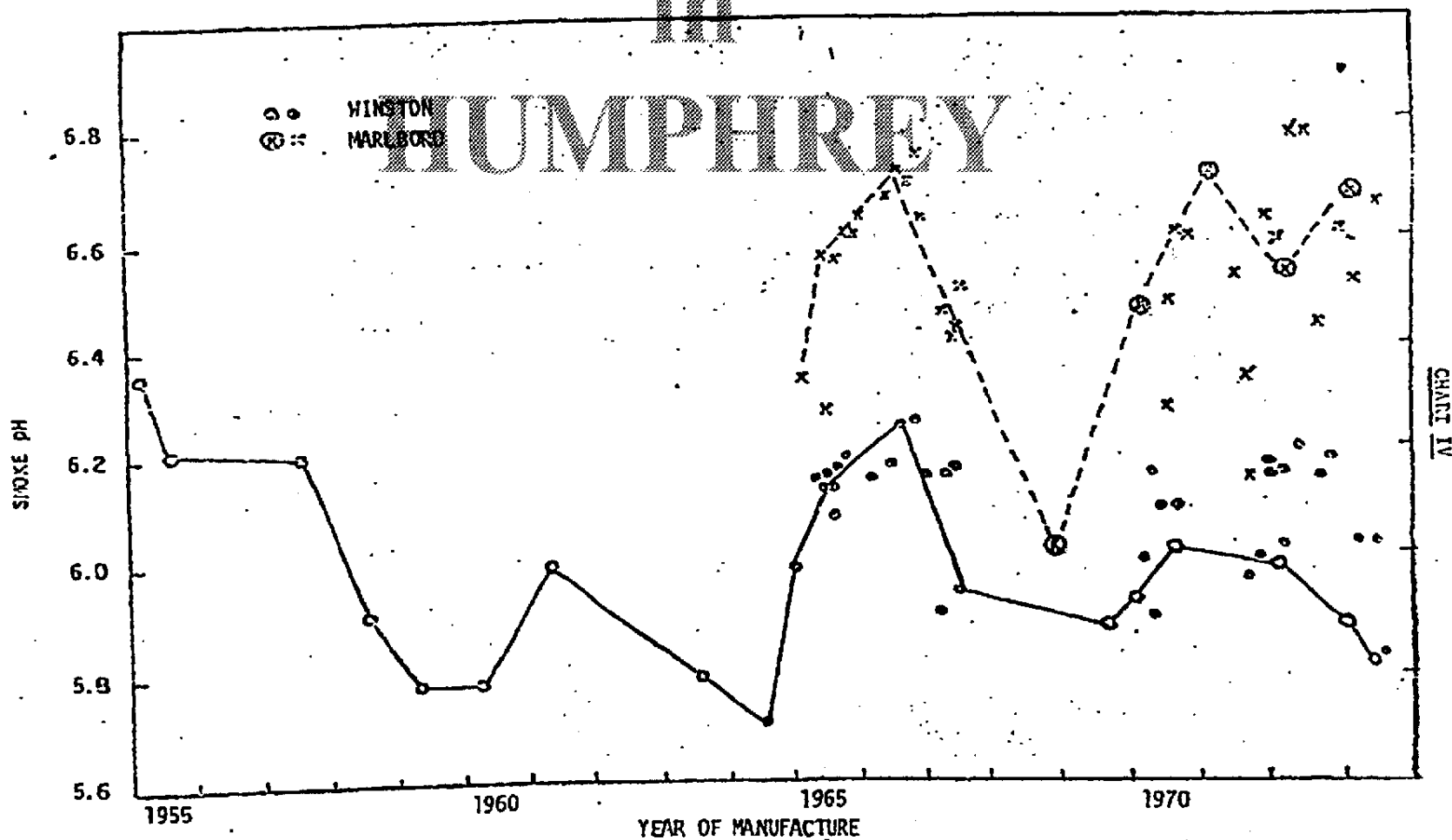
AVERAGE MAXIMUM SMOKE PH OF TOBACCO MATERIALS AND PRODUCTS



50931 4131

52614 7806

produced by RJRTTC
in

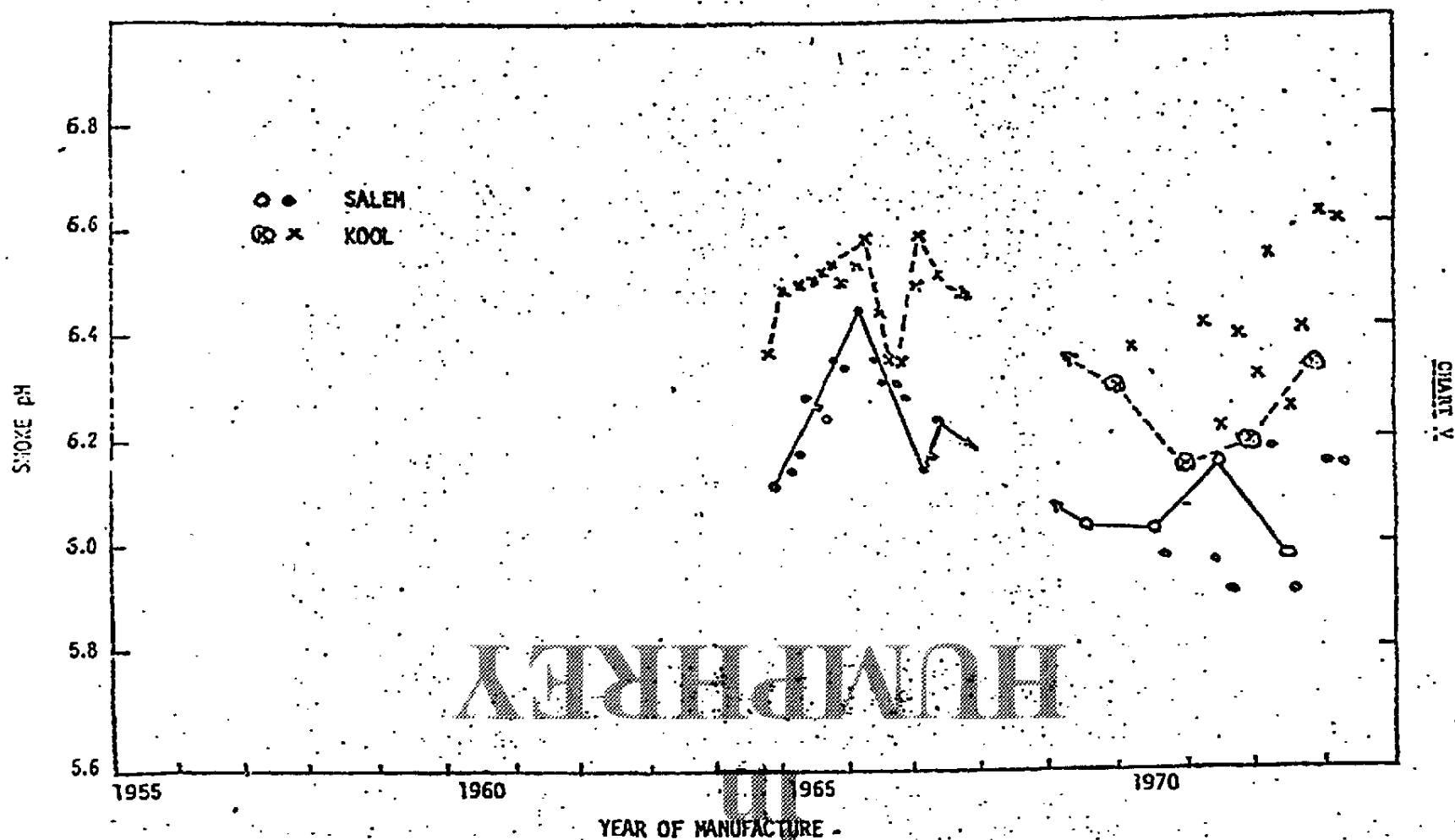


WINSTON VS MARLBORO: SMOKE pH VS YEAR OF MANUFACTURE

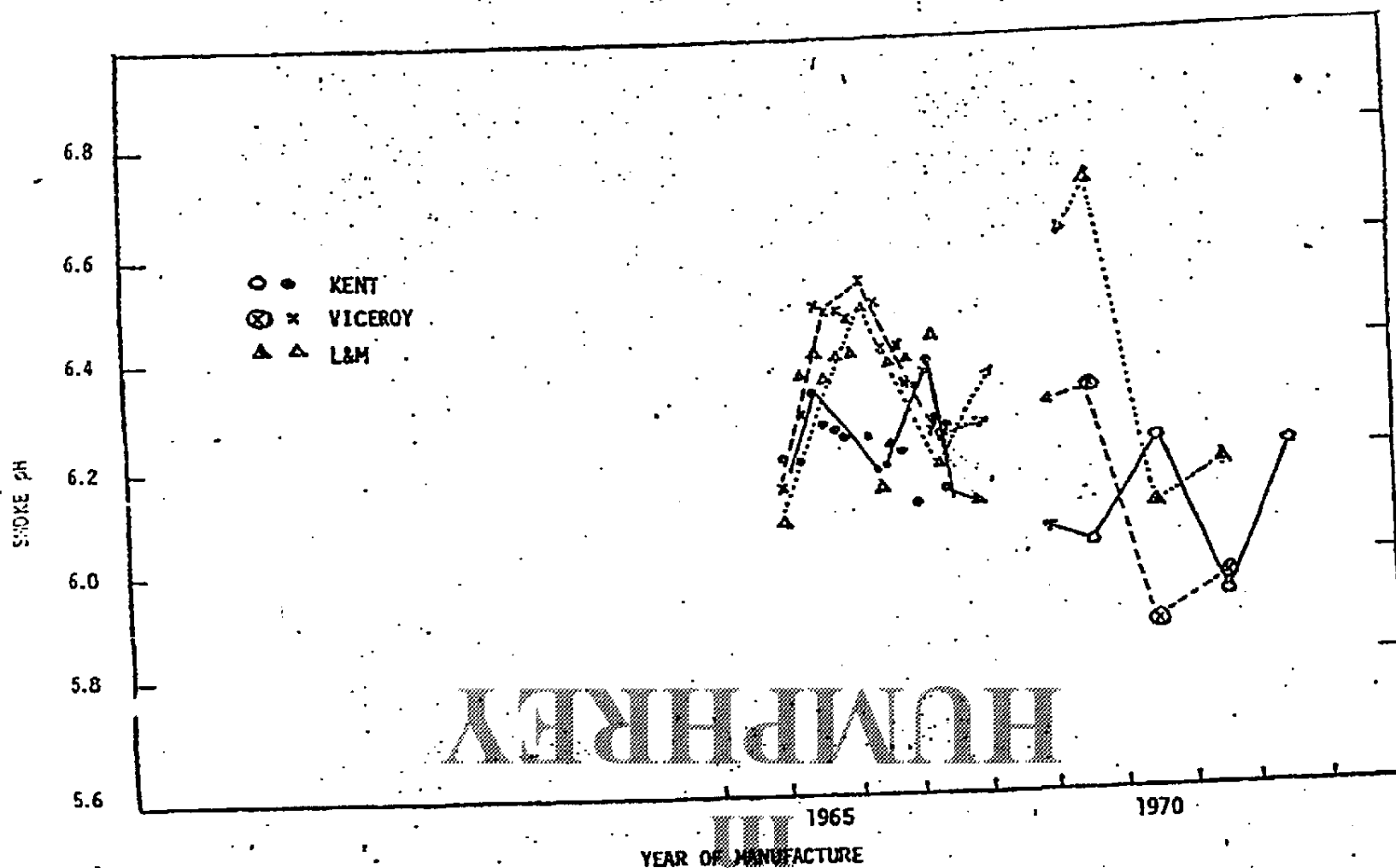
50931 4132

52614 7807

50931 4133



SALEM VS KOOL: SMOKE pH VS YEAR OF MANUFACTURE



Produced by RRTC

FILTER CIGARETTE: SMOKE pH VS YEAR OF MANUFACTURE

50931 4135

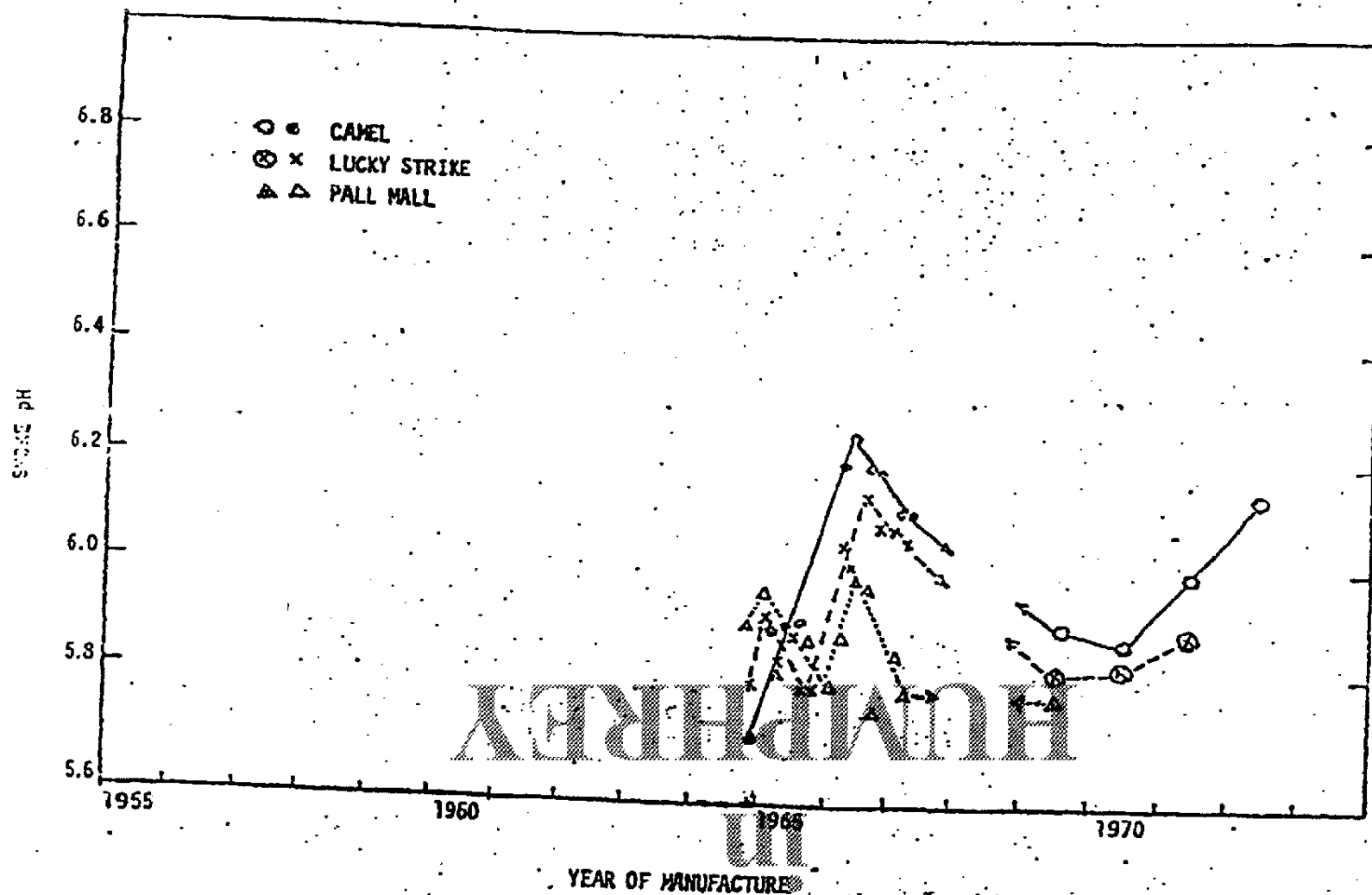


CHART VII

NONFILTER CIGARETTES: SMOKE pH VS YEAR OF MANUFACTURE

CHART VIII

pH, NICOTINE AND SMOKE QUALITY

EFFECTS ON SMOKER

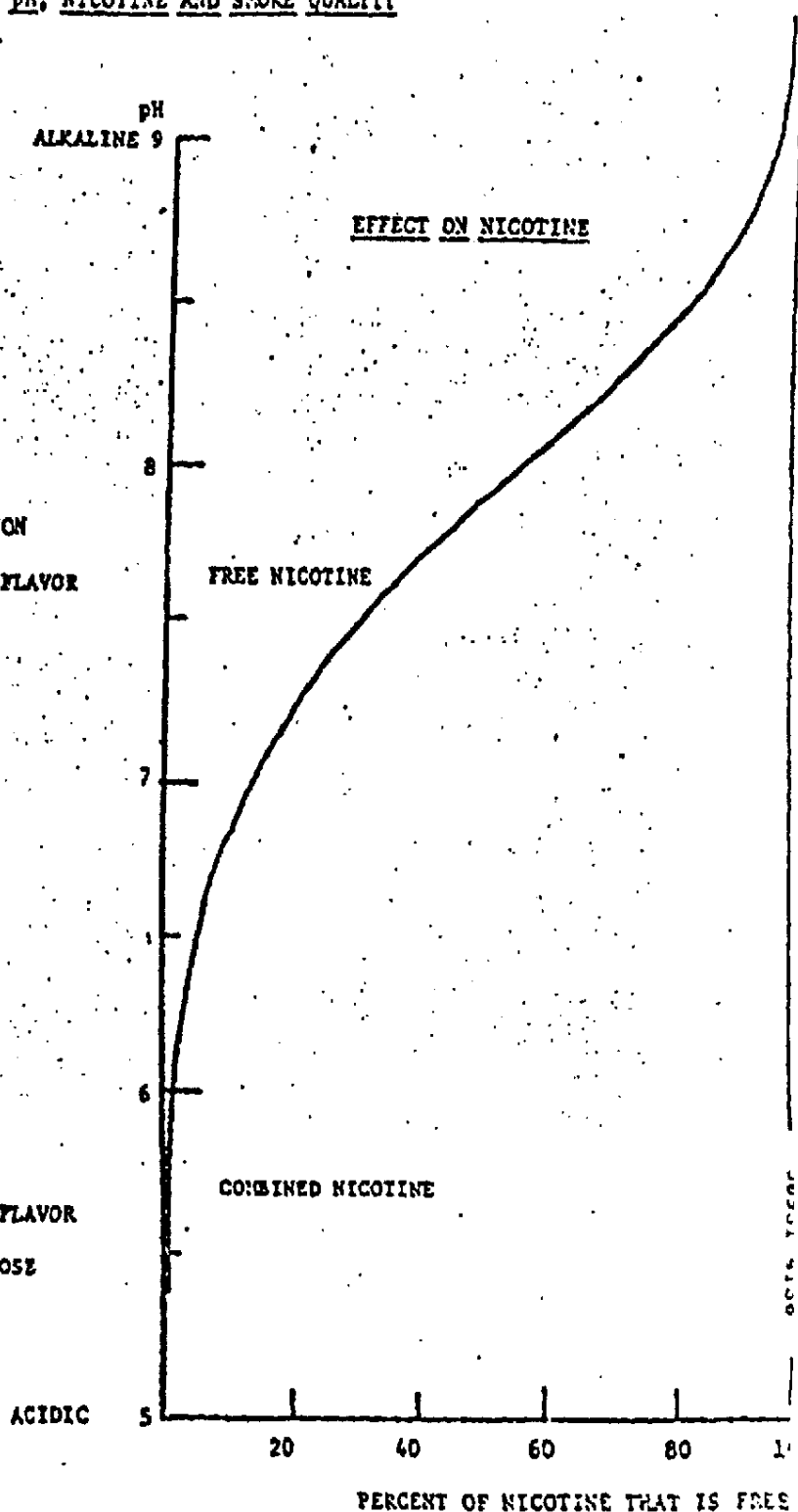
EFFECT ON NICOTINE

AREA OF:

RAPID NICOTINE ABSORPTION
HIGH BURLEY (NICOTINE) FLAVOR
HARSNESS TO THROAT

AREA OF:

SLOW NICOTINE ABSORPTION
HIGH P.C., TURKISH, STEM FLAVOR
IRRITATION TO MOUTH AND NOSE



produced by R.J.T.C.

FREE NICOTINE

52614 7811

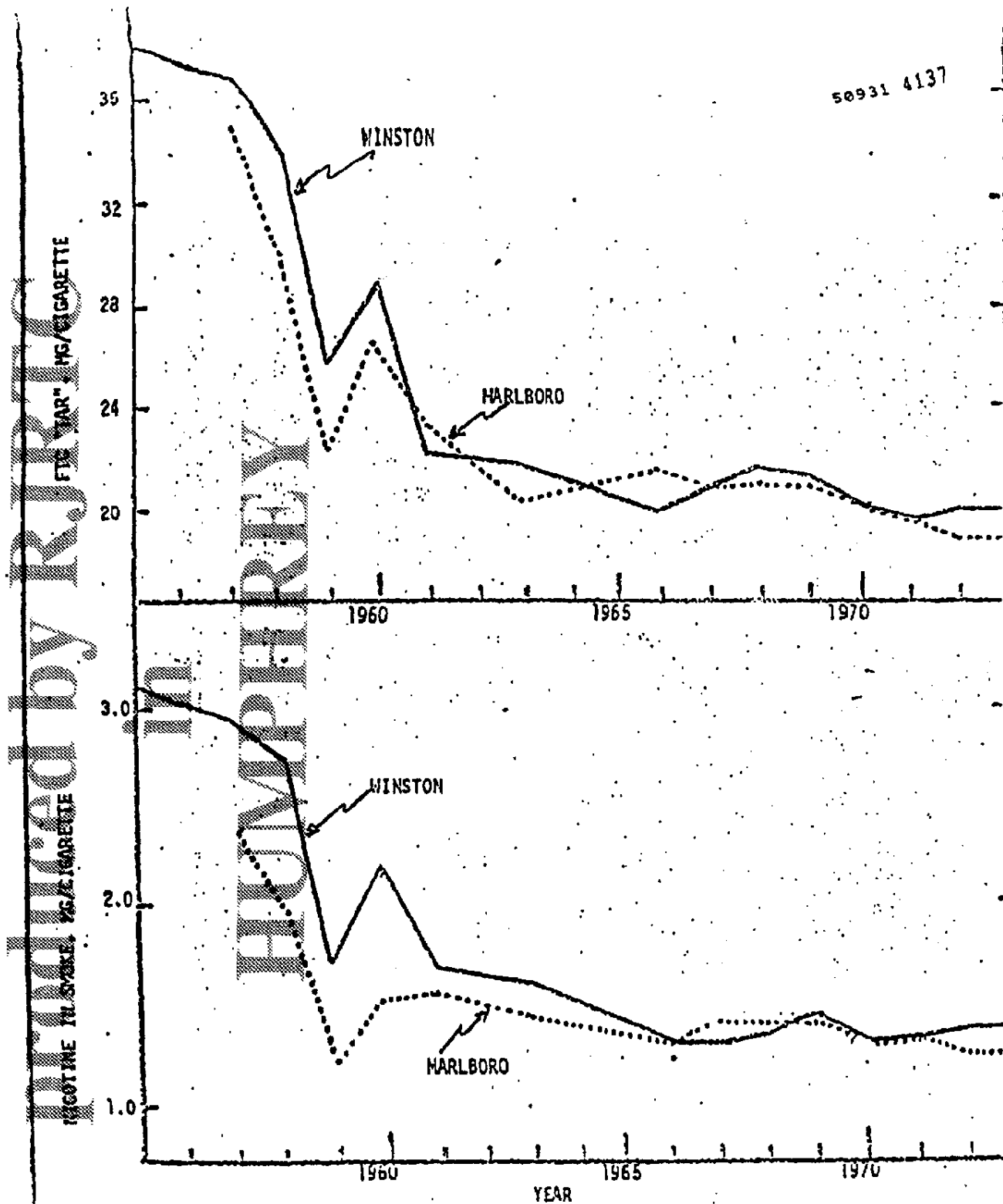


FIG. : FTC "TAR" AND SMOKE NICOTINE - MARLBORO VS WINSTON

FTC TARIFF, MS/CIGT.

REQUIRE IN SPOKE, MS/CIGT.

40

30

20

3.0

2.0

1.0

SALEM

50931 4138

KOOL

1960

1965

1970

SALEM

KOOL

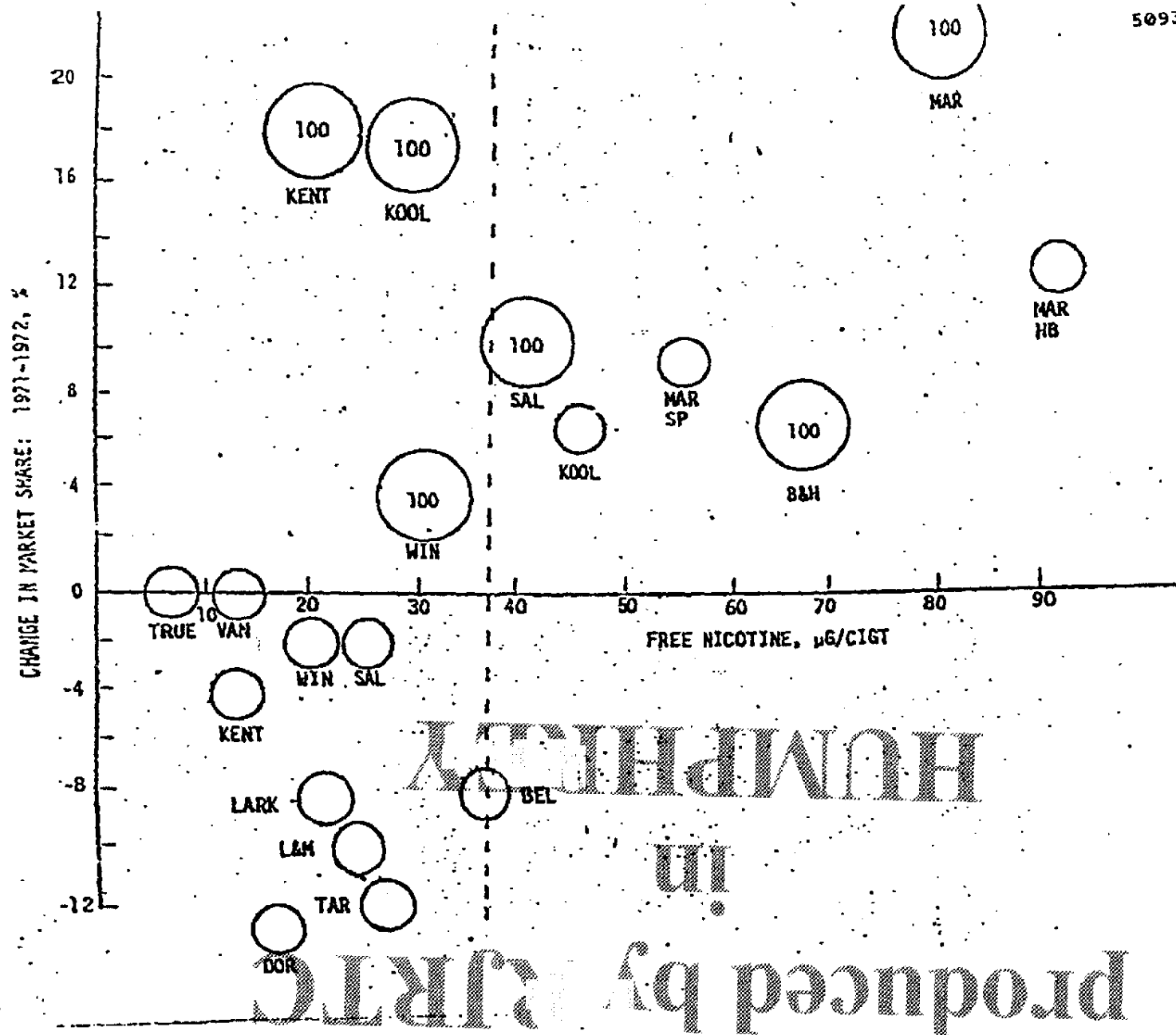
1960

1965

1970

YEAR

52614 7813



CONFIDENTIAL

July 12, 1973

Mr. W. S. Smith, Jr.

Free nicotine does help explain the differences in performance between Winston, Marlboro, Salem and Kool but not all of the difference.

We have reviewed free nicotine, advertising expenditures, and 100mm spin-off data for Winston, Marlboro, Salem and Kool from 1963 through 1972 and found that the difference in share performance of the 85mm styles of each brand is affected by all of the above factors independently and collectively.

Together these three factors statistically explain 97% of the variability between share performance of Winston and Marlboro (King and Bow). They explain 95% of the variability between Salem and Kool.

The variability due to "free nicotine" was significant and its contribution was over and above that of advertising expenditures and 100mm spin-off.

Other factors which we reviewed but which did not seem to correlate favorably were:

combined nicotine,

tar,

nitrogen, and

sugar.

Ammonia and out-of-stock conditions look promising, but we have only limited data on both.

Our analysis suggests that pH does not correlate as closely with share performance as does free nicotine. Our emphasis should be directed toward free nicotine while pH would provide us with a measure of or tool to effect free nicotine. We will conduct correlations between performance and pH if you desire.

R. A. Blovins, Jr.

PAB:fm

CC: Mr. W. D. Hobbs
Mr. C. A. Tucker
Mr. C. E. Teague, Jr.

50931 4140

52614 7815

Charles Hill

August 10, 1973

Mr. R. A. Dlevins, Jr.

Re: CORRELATION OF pH AND SHARE OF MARKET PERFORMANCE

The correlation of pH and SOM performance holds, but only for those brands having the same nicotine levels. In the analysis of differences in performance between WINSTON and Marlboro and between SALEM and Kool, pH does correlate equally as well with performance as does free nicotine. The total nicotine in WINSTON and Marlboro and in SALEM and Kool is almost equal.

Since pH is a measure of the percent of free nicotine and since the amount of free nicotine present would then depend on the total amount of nicotine, two brands with the same pH could have different amounts of total nicotine and, therefore, different amounts of free nicotine.

Jerry R. Moore
Marketing Research Department

JRM:vhl

produced by RJR/C

50931 4141

52614 7816

(CONFIDENTIAL)

July 3, 1973

Mr. R. A. Blevins, Jr.

Re: CORRELATION OF SMOKE BALANCE FACTORS WITH SOM TRENDS

A preliminary correlation study of smoke balance factors (free nicotine, combined nicotine, tar, nitrogen, ammonia, and sugar) with SOM trends for WINSTON 85's vs. Marlboro 85's and SALEM 85's vs. Kool 85's from 1963 to 1972 confirms the correlation of free nicotine to sales previously reported by Research. Differences in SOM for each year between WINSTON 85's and Marlboro 85's and between SALEM 85's and Kool 85's were correlated with differences in the smoke balance factors (see Table I attached). A correlation of approximately .40 is significant at the 80% level of significance.

While the correlations of differences in SOM with various smoke balance factors (particularly free nicotine) are suggestive, there are other factors, such as differences in advertising expenditures, and differences in SOM of the 100's for the brands also significantly correlated with differences in SOM. Assuming that cause and effect relationships do exist, it is not possible with available data to separate the effects of smoke balance factors and other factors.

In spite of the confounding of effects, a regression model including differences in free nicotine, advertising expenditures, and SOM of the 100's with difference in SOM as the dependent variable resulted in 97% of the variability explained in the case of WINSTON 85's vs. Marlboro 85's and 95% of the variability explained in the case of SALEM 85's vs. Kool 85's. In both cases, free nicotine contributed significantly to the model over and above the other factors.

Jerry R. Moore
Jerry R. Moore

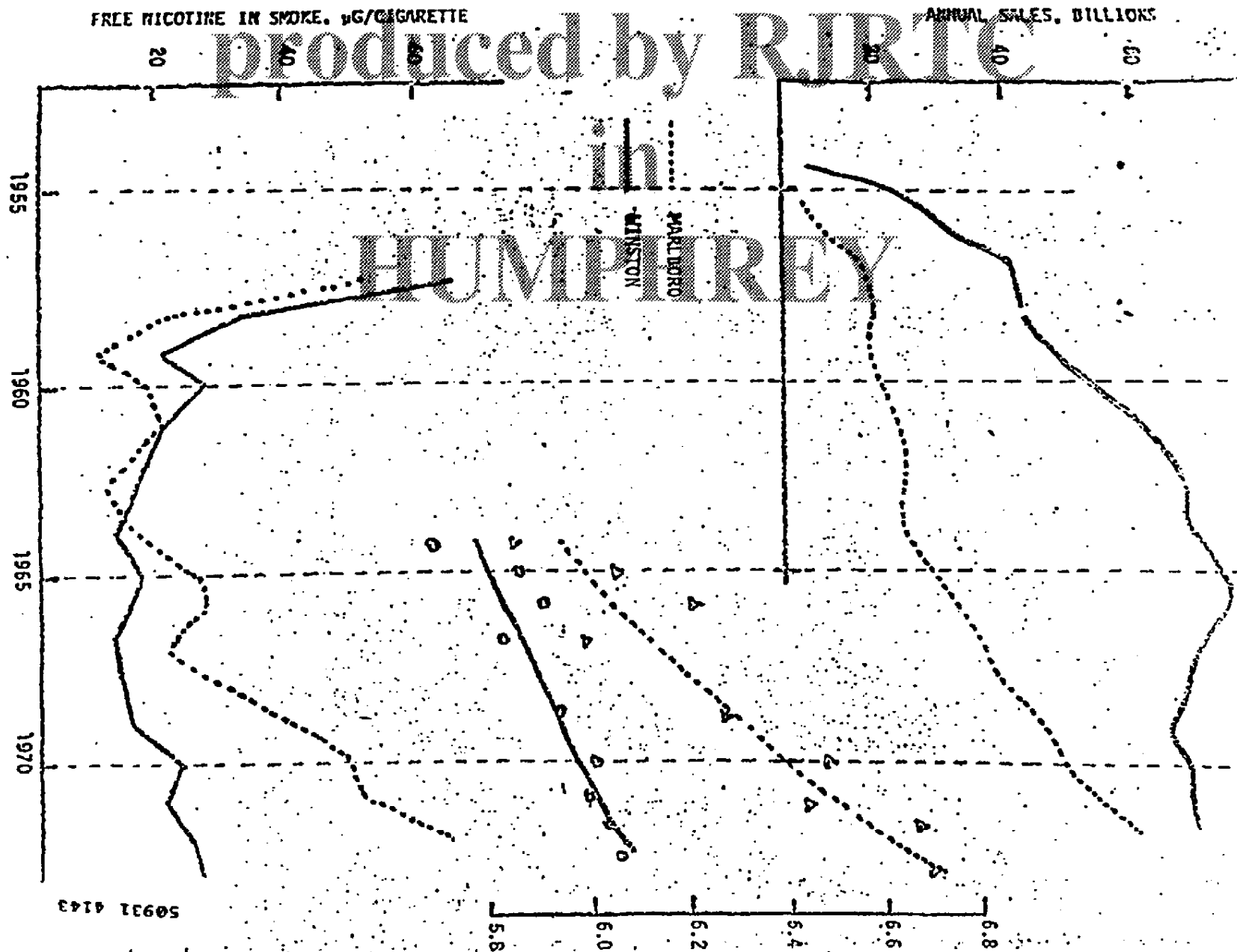
JRM:vl
Attachment

50931 4142

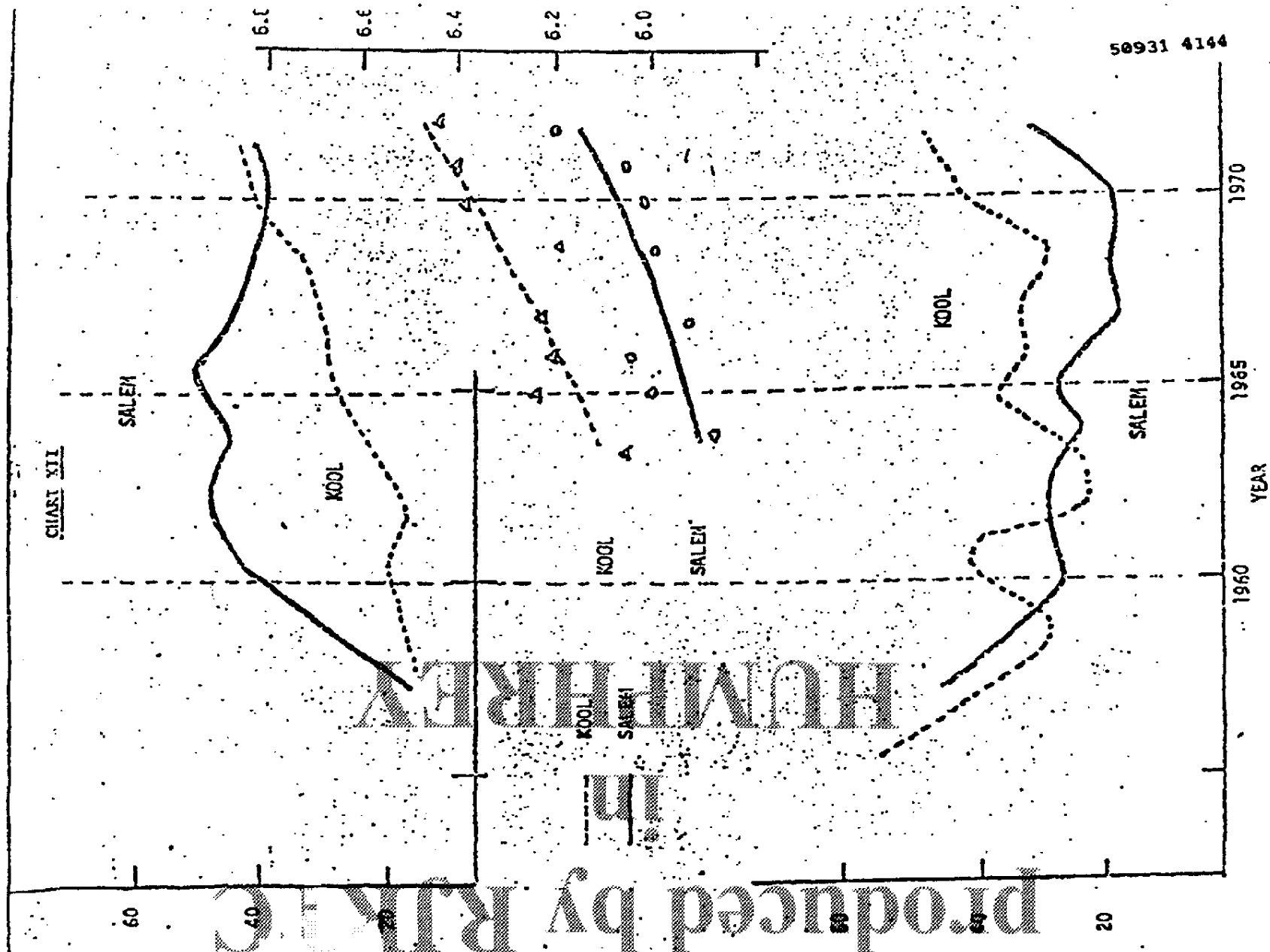
52614 7817

FREE NICOTINE IN SMOKE, $\mu\text{G}/\text{CIGARETTE}$

ANNUAL SALES, BILLIONS



52614 7818



51

HUMPHREY

in

produced by RRTC

COUNTABILITY.

MBO PERFORMANCE REPORT

RJR 000900

37 of 41
Page

Incumbent D. H. Pichl

Company RJR Tobacco/Research

Date 11/30/77

PEP No.	SUBJECT	In Let. 5 Yr. Plan Yes/No	Appropriated Funds		Long Range Financial Implications		Dates		Success Probability %
			Budgeted	Spent To Date	Capital Expenditure Total	Estimated Annual Pre-Tax P & L Effect	Start	Complete	
-11	"TAR" AND NICOTINE DELIVERY-SMOKER SATISFACTION (Project 1250)		\$173,000	\$106,768 61.7%					
STATUS & Indicated Next Action						Person(s) Responsible			

PEP UNDERTAKINGS:

Identify factors influencing nicotine delivery efficiency and determine means to increase nicotine "tar" ratio.

Determine minimum "tar"-nicotine levels for smoker satisfaction through panel testing and study effect of varying nicotine levels on low "tar" blends.

ACHIEVEMENTS:

1. WINSTON and SALEM blend components examined to determine effect of tobacco types on "tar" and nicotine delivery. Data indicate flue-cured contributes most nicotine to blended cigarettes.

Type	% Nicotine Transfer	"Tar"/Nicotine (Smoke)
Flue-cured	14.2	9.6
Burley	9.8	15.8
Turkish	13.7	26.2
G13	9.1	19.0
G7	8.4	23.3

Nicotine transfer data for WINSTON blend components with added nicotine, in form of free base and as malate salt, indicates added nicotine transfer efficiency is lower for added nicotine than for natural nicotine. Added free nicotine usually transfers better than as the malate salt. Added nicotine appears to transfer more efficiently when added at high levels to cut puffed stems.

2. Excellent correlations between panel response (irritation, nicotine strength) and smoke nicotine have been observed; improved ballot developed. For booth panel, average optimum nicotine/pH level is near (1.1 mg/cigt)/6.4 pH. Minimum values yet to be determined. Preliminary measurements of fingertip temperatures and pulse rates (below) of smokers completed. More sophisticated measurement systems will be required if those responses are to be correlated to smoke nicotine.



50053 6466

52614 7821

115

PROJECT 1250 - "TAR" AND NICOTINE DELIVERY - SMOKER SATISFACTIONSPECIFIC UNDERTAKINGS:

3. Evaluate existing competitive brand data and crop analyses to determine factors related to nicotine and "tar" delivery.
4. Evaluate previous experimental and formal tobacco to determine the effect of these materials on "tar" and nicotine delivery.
5. Continue casing studies, particularly the effect of sugar on nicotine delivery, if current RSM study indicates additional experiments are desirable.

ACHIEVEMENTS:

<u>Subject</u>	<u>Pulse Rate Before/After Smoking</u>	<u>Remark</u>
1	72/79	SALEM L
2	70/88	REAL
3	58/70	3 Burleys not inhaled
4	63/72	Pipe smoker
5	81/83	Not inhaled
6	55/66	TEMPO

3. 1976 competitive brand report completed, no substantial changes noted other than Carlton "tar" and nicotine reduction. As predicted, nicotine delivery of 1977 RJR brands increased when 1975 crop flue-cured was introduced into blends. However, nicotine delivery of most RJR brands decreased in July. Reasons for this decrease are not obvious. An increase in paper porosity of Marlboro was observed in August. The effect of this change on smoke chemistry is not yet established.
4. Large sample of low nicotine tobacco analyzed, panel evaluations made, and currently being used in blending experiments. Avoca tobaccos with varying levels of nicotine received for processing. Samples should be available for evaluation by year's end. Sixteen Brazilian and two Korean flue-cured samples evaluated. All samples that were rated as unusable by expert smoker had high sugar/nicotine ratios, low smoke pH.
5. RSM-casing study complete. Two formal reports issued. RSM model which predicts effect of casing levels of 40-100% of WINSTON on smoke chemistry and panel results is now available. Model predicts that maximum panel preference (60.6% of panels preferring test over control) can be obtained by reducing WINSTON level of invert sugar by 23%, corn syrup by 12%, licorice by 35% and cocoa by 33%. Near minimum "tar"/nicotine ratios and relatively low gas phase component deliveries are also obtained with this casing level. Comparison of RSM predictions with historical data from casing reduction experiments indicate RSM model predicts with reasonable accuracy. Results of RSM study suggest casing reduction of approximately 30 percent would improve WINSTON smoke quality while saving \$900,000 in casing materials per year.

50053 6467

52614 7822

PROJECT 1250 - "TAR" AND NICOTINE DELIVERY - SMOKER SATISFACTION

SPECIFIC UNDERTAKINGS:

ACHIEVEMENTS:

6. Several low tar cigarettes (4 to 8 mg) with T/N ratios of 10 and below have been evaluated. Cigarettes with T/N ratios less than 5 have also been demonstrated but blends are not practical. Thirty blend variations have been evaluated in air-dilution cigarettes which deliver ca. 6 mg "tar". Best blend so far is similar to REAL blend. No clearly defined relationship between nicotine delivery and panel preference has been observed in these blends.

produced by RJRT
produced by RJRT
in
BURTON
HUMPHREY

50053 6468

52614 7823

16

HUMPHREY

in

produced by K. KTC

RJR

WASH
SWS

RJR 000945

Inter-office Memorandum

Subject: Research Dealing with
Nicotine and Enkephalins

Date: January 5, 1978



To: Dr. D. H. Piehl

From: T. A. Perfetti

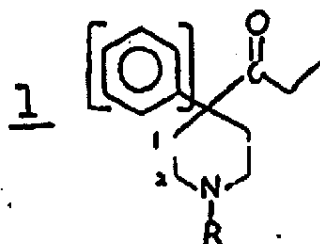
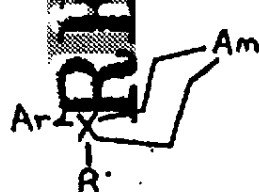
I strongly agree with Dr. Goldstein in his work with enkephalins and endorphins. Several weeks ago I discussed with Jim Dickerson this same approach in relating chemistry to satisfaction, a word having rather subjective connotations and having little to do with science per se. There are several reasons to believe the work in this area would benefit R. J. Reynolds and the tobacco industry in general.

1. Opiates, like nicotinic agents, have rather non-specific receptor sites. These sites in opiates comprise both tightly and loosely bound sites. Techniques are now available to sort out these different types of binding which could, as in the study of opiates, lead to the stereospecific sites of action of nicotine.

2. Opiates, like nicotine, have receptor sites throughout the body, primarily mediating their pharmacological effects in the smooth muscles. The binding sites in the brain and in the smooth muscles are essentially the same in the two tissues. If indeed, endorphins are found for nicotine then a more exact method for studying its concentration effects, pharmacological action and physiological effects could be handled. This could relate directly to the chemistry of satisfaction and relieve us of the gross subjective generalization we now use to determine satisfaction.

3. Perhaps the most important reason that this work should be pursued concerns the similarities in structure-reactivity the scheme for opiates as related to nicotine-type molecules.

Ketobemidones (1) exhibit the common features of all opiates, these are



R = CH₃
R = (CH₂)₄CH₃

- a quaternary carbon (X) ^{no}
- a phenyl [(Ar) or bioisotere] ring attached to this carbon (X) ^{yes}
- a tertiary amino group, 2 saturated carbon atoms removed ^{no}

The most potent ketobemidones (analgetics) having a methyl or pentyl group for R, being extremely active.

Comparing these ketobemidones to nicotine and nicotine-like drugs we find that the similarities are quite similar. So similar that it would not be surprising if the same endorphins that bind ketobemidones and opiates also bind nicotine.

50298 1328

52614 7825

124

I respectfully submit that the evidence available to date in this area is now conclusive but I feel that if we are to pursue satisfaction we need to have a basis in science. Goldstein's approach will determine if nicotine satisfaction has its bases in chemistry.

I have no doubt that the work will be done and relatively soon, since nicotine is the next naturally occurring alkaloid used in appreciable amounts which has been implicated as an addictive drug. I can't stress this fact enough, since its results could be devastating to the tobacco industry as a whole. This work could have far reaching effects for us.

I feel the work should be funded. If the results found are to our advantage, so much the better. If we do not fund the proposal and information detrimental to RJR is found, our position directed toward public safety in making a safer smoking product could be in jeopardy, they, the public, realizing we were not sympathetic in research directed at their safety.

I realize that I know little about making these types of decisions and for that matter the policies of RJR in these matters. I, therefore, accept and will stand behind the company and its final decision.

T. A. Perfetti
T. A. Perfetti

:kl

50296 1329

52614 7826

7
1

HUMPHREY

in

produced by NRTC

RJR

Inter-office Memorandum

Subject: Senkus Memo on Ammoniated G7

Date: August 17, 1978

To: Dr. D. H. Piehl

From: C. R. Green

I believe that the results of Dr. Senkus' study on aging of cigarettes containing ammoniated G7 are correct, however, he seems to neglect some factors in reaching his conclusion.

Some of the ammonia in the smoke of PH products may come from ammonium phosphate used in their G7 process, but there are limitations to the amount of phosphate which may be added to a cigarette blend before altering burn characteristics. PH's use of ammonium carbonate expansion is almost certainly the source of much ammonia in their tobacco blends. I believe that whole tobaccos are much more retentive towards ammonia than homogenized tobacco sheet.

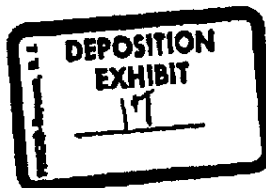
The low level of formaldehyde in Marlboro smoke is due in part to the ammonia present, but other factors are also important. Marlboro's most recent drop in formaldehyde is thought to be caused by the use of a more porous cigarette paper.

As Dr. Lloyd mentions, the RJR G7A process has not been optimized. When the closed ammoniation equipment becomes available, experiments should be conducted with G7 with more gaseous ammonia. If higher levels of blend and smoke ammonia can't be achieved in this manner, adding ammoniated whole tobaccos to our blends in order to achieve higher ammonia levels should be considered.

We need a better ammoniation process. Ammoniation of G7 in aqueous media may be one approach to a better process, but I believe that other techniques that use gaseous ammonia have a better chance of success.

:lm

xc: Dr. J. H. Schumacher ✓

CRG
8/17/78

RJRI FORM 9422-Rev. 7/78

50297 2204

52614 7828

81

HUMPHREY

in

produced by R. ETC

AMERICAN CANCER SOCIETY, INC.

510 EAST 42ND STREET • NEW YORK, N.Y. 10017 • (212) 887-8700

WILLIAM B. LEWIS
CHAIRMAN, BOARD OF DIRECTORS

January 19, 1971

Mr. Horace R. Kornegay
President & Executive Director
The Tobacco Institute, Inc.
1776 K Street, Northwest
Washington, D.C. 20006

PLAINTIFF'S
EXHIBIT
1104

ALL STATE LEGAL SUPPLY CO.

DEPOSITION
EXHIBIT
1196

Dear Mr. Kornegay:

RESEARCH
EDUCATION
SERVICE

In response to your press release of January 3 regarding the American Cancer Society and other health agencies, I want to make a number of comments. Your recent letter and your advertisement, about the industry's "commitments to honest scientific research to help resolve the controversy about smoking and health", provokes specific answers.

1. The controversy about smoking and health continues, largely, because of the energy, time and money spent by the tobacco industry in keeping this controversy alive. Advertisements of the sort you enclose seem to me to have as their major point the reassurance to cigarette smokers that you express in your headline: "The question about smoking and health is still a question."

2. You speak proudly of the 1115 reports published as a result of tobacco industry research and say they are "available to scientists and doctors interested in pursuing the scientific truths on smoking and health issue." Does any one of these reports indicate that cigarette smoking is safe? Of course not.

Population studies, animal experiments, pathological and clinical studies have all demonstrated the serious risks of cigarette smoking. The evidence of the threat to health has been accepted here and abroad by every medical, scientific, and public health body that has examined the problem and expressed an opinion. The most recent such statement came from London's prestigious Royal College of Physicians which said "Cigarette smoking is now as important a cause of death as were the great epidemic diseases such as typhoid, cholera, and tuberculosis," and asked the government to end "the present holocaust--a reasonable word to describe the annual death toll (in Great Britain) of some 27,500 men and women aged 25 to 64 from the burning of tobacco." Another in the series of brilliant reports by the United States Public Health Service and its Surgeon-General will soon be issued, reaffirming the evidence that smoking is a major cause of lung cancer and contributes to heart disease, emphysema, and other conditions, and stressing the grave dangers to women in smoking cigarettes.

DEPOSITION
EXHIBIT
18

52614 7830

3. In your release you seem to regret the lack of "a massive assault on the scientific mysteries of reported associations between smoking and illness" by competent research support sources. We agree there should be much more research.

The \$4 million that you will spend is about 2% of what the tobacco industry could save by the ending of its broadcast advertising. What will the industry do with the rest of the some \$200,000,000 that you have been spending annually for radio and television? You could mount a really massive program of research, and it might even lead you to a safer cigarette.

4. You charge that research support sources "have diverted publicly collected funds into wholesale anti-cigarette propaganda." Our funds are collected for research, for education, and for service to patients. We and our contributors consider education to save lives from lung cancer as an important part of our program. Quite frankly, since you seek to negate the dangers of cigarette smoking, it is essential that members of the scientific community present the truth. We have had, we think, some success in this area.

On the matter of funds used for this propaganda, the American Cancer Society has been devoting less than a million dollars a year to its educational activities about cigarette smoking. This hardly seems an unreasonable diversion of funds from a publicly supported organization, whose total annual budget is about sixty million dollars a year. The anti-cigarette expenditures include costs of TV and radio materials, the school program, films and general public education pamphlets for adults and covers costs in the national office, divisions and units. They are much less than one per cent of what the tobacco industry has been spending to sell cigarettes. The effort to prevent cigarette-induced disease has of course received great volunteer support from the media, health agencies, branches of the government and educational organizations.

In conclusion we can appreciate the dilemma of the tobacco industry and its leaders, distinguished citizens, who find themselves faced with the evidence that they are manufacturing a product that causes so much disease, disability and death. Their problem is a painful one.

But our major concern is with the health of the cigarette smoker. We feel that it is shocking to use the advertising resources of a great industry to tell smokers that the issue of risk in cigarette smoking is in doubt, to speak glibly of "continuing controversy" and of "a muddy picture", that establishing a cause and effect relationship "is much more complex than originally thought".

The continued promotion and advertising of cigarettes contributes to a grave health problem, it also creates a moral problem for your industry.

Produced by RITC

January 19, 1971

You say "I know of no single individual among the hundreds of thousands of tobacco farmers, manufacturing and distribution employees and executives and retailers who believes he is profiting from poison instead of pleasure." Belief that a gun is not loaded, when experts assure you that it is, is hardly an excuse when the gun goes off and someone is wounded or killed.

The facts are clear: cigarette smoking is a dangerous business. You speak in your advertisement of research since 1954. In that year 24,788 died of lung cancer; in 1971, 64,000 will die of lung cancer; at least three quarters of them as a result of cigarette smoking and this is only part of the mortality caused by this habit.

I suggest that it is time for the tobacco industry to accept the decision of the vast majority of physicians and scientists here and abroad, to stop all its advertising and promotion of cigarettes as presently constituted, and concentrate on developing a less hazardous product.

Sincerely yours,

William B. Lewis

William B. Lewis
Chairman, Board of Directors

produced by RJRTC

in

HUMPHREY

52614 7832

61
HUMPHREY
in
produced by R. J. P. T. C.

produced by R&H TC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

PRIVILEGED MATERIAL REDACTED

1003718428

DEPOSITION
EXHIBIT

19

TRIAL EXHIBIT
26,336

52614 7834

Produced by RJEFC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

1003718429

52614 7835

produced by RJRTC
in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

1003718430

52614 7836

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

1003718431

52614 7837

1003718432

PRIVILEGED MATERIAL REDACTED

HUMPHREY

in

produced by RJRTC

20
HUMPHREY
in
produced by R.JTC

12

produced by RJRT
in
HUMPHREY

THURSDAY, MARCH 19, 1970

8:00 - 8:30

Talk to Dr. E. D. Nielson - by Mr. Vassallo and Dr. Senkus
in Dr. Senkus' Office

1. In-house biological testing in the smoking-health area has been terminated.

Any further biological testing that may be needed will be farmed out.

2. All synthesis of compounds in fields outside of tobacco and foods has been terminated. All biological work in these outside areas is being terminated, i.e., drug, agricultural and others.

3. The Biological Division is being dissolved. Some service functions will be retained, such as Dr. Campbell's operation and Margaret Long's quality control assistance to R.J.R. Foods. These functions will be transferred to the Analytical Division.

The wing bean and tobacco beetle work will continue. These functions will be transferred to the Analytical Division.

The glucose-isomerase work will be continued up until divestiture of Penick & Ford. This, too, will be transferred to the Analytical Division.

4. You will be given a staff assignment with the title of Research Associate.

Your functions will include:



51559 7583

52614 7841

produced by RJRC

(1) Assist in the administration of contracts on biological research with outside laboratories.

(2) Act as a consultant to the Legal Department on behalf of Research in the smoking-health area.

(3) Act as a biological consultant to the Foods Company, the Research Department and the Product Development Department.

(4) Develop and maintain appropriate outside contacts on biological

Problems.

Produced by RJRTCC

in

TEXAS
HUNTSMAN

51559 7584

52614 7842

22

HUMPHREY

in

produced by RJRT

STRICTLY PRIVATE AND CONFIDENTIAL

PLAINTIFFS' EXHIBIT 1055
DATE 1-12-67
WILLIAM E. LADDAGE
REGISTERED PROF. REPORTER

MEETING WITH DR. HELMUT WAKEMAN, VICE-PRESIDENT
AND DIRECTOR OF RESEARCH, PHILIP MORRIS INC.,
10TH SEPTEMBER, 1970

The meeting was arranged as the result of a cable to DGT on 29th August from Dr. Wakeman, who is visiting Europe in connection with the forthcoming CORESTA Congress in Hamburg. It took place over and after lunch; Wakeman had arrived in London that morning from Washington.

It was soon apparent that the main purpose was to explore in more detail the reasons for the decision to exclude Godfrey Phillips (Philip Morris) from TRC and who was responsible for the policy. DGT attempted to explain his understanding, namely that the objection and the objectors seemed to be twofold:

- (i) ITU, who claimed to see scientific co-operation as the thin end of a wedge which might lead to undue influence in the affairs by American lawyers.
- (ii) Callaher, because of their affiliation with American Brands who might not welcome the presence of a US competitor.

Wakeman said he thought this might be the case, especially after his talk with Bentley at the Tobacco Working Group last January. At this, IIRD had suggested that Mr. J. Cullinan, the President of Philip Morris, should approach Mr. Carter of ITU. Wakeman had passed on the message but did not know whether a meeting had occurred. The next information was a notification via Mr. Littlejohn that Godfrey Phillips had been excluded from TRC. Wakeman and his colleagues had taken this as a distinct rebuff to what they had intended as an "open doors" approach, which Wakeman insisted had to be a two-way trade.

DGT suggested that Wakeman might care to approach IIRD again during the CORESTA meeting in Hamburg.



110315968

29115

52614 7844

CTR Affairs

Vakeham believes that there is at least a chance that CTR will be influenced more in the future by the Company scientists. At least, in Philip Morris he sees a waning in the influence of Paul Smith. The latter's ascendancy in policy matters stemmed from an argument between Smith and Ross Millhiser (now head of Philip Morris International) in 1962, in which the legal attitude was stated as being aimed at the preservation of the right to advertise, while Millhiser was arguing for product modification based on research. Smith won the battle but lost the war; Cullman and Millhiser are now prepared to listen more to Vakeham.

However, Vakeham was still critical in that the replacement for Dr. Little as Scientific Director of CTR is being sought by the lawyers committee and the Tobacco Institute without reference to the scientists.

Vakeham welcomed the presence of Dr. Hughes on the Industry Technical Committee whom he found more flexible than Dr. Griffith had been.

Philip Morris Affairs

One result of the greater influence which Vakeham has with Mr. J. Cullman has been the agreement, albeit reluctant, to permit Philip Morris to do "in-house" biological work. When this was first mooted, Vakeham was told that there was a tacit agreement between the heads of the US Companies that this would not be done. Vakeham had countered by saying he knew that Reynolds, Lorillard and American were all undertaking some and that Liggett and Myers had never been party to the agreement. Cullman had been incredulous and had phoned Callovey, the President of R.J. Reynolds who had denied Reynolds were doing any bioassay. When Cullman had told Vakeham this, Vakeham's response had been to quote the Reynolds' work on the Senkus smoking machine and to claim he had floor plans showing outline area allocations. This too had been relayed to Callovey by Cullman, incredible though it may seem, and Callovey had visited the Reynolds Research Dept. to find it was substantially true. There had been a sudden

reorganization at Reynolds, resulting in the closure of the biological section, the severance of product development (which remained with the tobacco division) from the research department (which became a corporate activity) and ultimately the resignation of Dr. Eldon Neilson, who had been in charge of biology.

A recent news item related to the construction of an expansion of laboratory facilities at the Philip Morris Research Centre, but Wakeham did not volunteer any information on the nature of the "in-house" research which Philip Morris would be doing.

He went on to refer to the difficulties of controlling contract research and mentioned that InBifo, the biological laboratory at Cologne, had been taken over by a firm in Seattle, Washington from the holding company which controls Hazleton Laboratories and InBifo. Philip Morris had had no forewarning of the takeover. Their research programs would continue there for some time at any rate.

University of Kentucky

Wakeham did not add much to what was already known of the current situation as described by Dr. Fleisher to Todd. The revenues of the extra Kentucky cigarette tax, amounting to a sum in excess of \$2 million per annum, are administered by a Board of Trustees, comprising mainly Kentucky politicians, tobacco growers etc. The tobacco industry is represented by Mr. Yeaman of R. & V. This board will allocate funds to approve projects drawn up by Griffith in conjunction with such members of U. of K. facilities as he can interest in the problem.

Wakeham had two major criticisms:

- (a) Griffith believed the US Industry should "contribute" to the programme and Wakeham did not see why Philip Morris should hand out funds with no say in what was done. Griffith did not appear to encourage outside suggestions.
- (b) No industry scientist was on the Board of Trustees. He could not see why Dr. Hughes was not a member. (ECF indicated that no doubt RTI sought advice from IRII).

Tobacco Working Group

Vakeliam had not heard of the Wynder initiative for an International Tobacco Working Group and reacted somewhat sharply. He considered the US Companies should have been asked to participate, although he was critical of the amount of work they had put in on the US Tobacco Working Group for such small thanks and less consideration. He was not surprised to learn that the Germans had apparently accepted the invitation.

produced by RJRT
in
HUMPHREY

DGT/ST/2.2

16th September, 1970

110315971

52614 7847

BAT Co Ltd - MINNESOTA TOBACCO LITIGATIONS

23

HUMPHREY

in

produced by P. H. TC

TO: Mr. J. P. Cullman III
FROM: H. Wakeham
SUBJECT: "Best" Program for C.T.R.

December 8, 1970

In retrospect of the November 30 meeting of the CTR Executive Committee, it might be appropriate to comment on the question "What kind of CTR program is best for the industry?" At the meeting it was apparent this question is troubling many elements of the industry to the extent people are reluctant to discuss the subject openly because of the diversity of views. To some extent this unsettled state also exists within Philip Morris. In the hopes of clarifying, at least partially, the matter I offer the following summary, hastily adding that these statements embody ideas from many places.

1. Stated Objective or Purpose of CTR

"To aid and assist research into tobacco use and health, and to make available to the public factual information on this subject". This is a very broad statement which has been interpreted more narrowly to "providing financial support for research by independent scientists..." "to provide significant data about lung cancer, heart disease, chronic respiratory ailments, and other diseases." (1968-69 Report of the Scientific Director, C.T.R. - U.S.A.)

A broader CTR program involving the mechanisms of contracts as well as grants and areas of research pertinent to health, other than strictly biomedical, is not excluded by the statement of purpose. The narrower interpretation indicated above must stem either from industry policy guidance or from the strong medical orientation of the Scientific Advisory Board.

In any case, this statement of purpose does not reveal the objective need of the industry in supporting the CTR program.

2. It has been stated that CTR is a program to find out "the truth about smoking and health." What is truth to one is false to another. CTR and the industry have publicly and frequently denied what others find as "truth." Let's face it. We are interested in evidence which we believe denies the allegation that cigaret smoking causes disease. If the CTR program is aimed in this direction, it is in effect trying to prove the negative, that cigaret smoking does not cause disease. Both lawyers and scientists will agree that this task is extremely difficult, if not impossible.

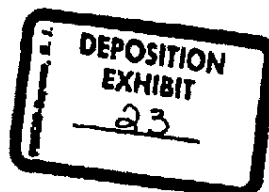
3. What then are the alternatives? Somehow all caveats and platitudes aside, we must assume that CTR exists for the good of the industry. How could this benefit be achieved?

Option A.

Aim the program at contributing to the search for the causes of diseases, especially those diseases alleged to be caused by smoking.

Rational I

Pro bono publico; institutional public relations - the industry is interested in



TRIAL EXHIBIT
11,586

52614 7849

December 8, 1970

human welfare and alleviation of human suffering; therefore, the public should love and respect us and buy our products.

Rational 2

With more research there is a good chance the smoker-related diseases will be found to result from causes other than smoking, and the industry is "off the hook."

Problem 1

In a total national health research effort of 1,000 million dollars, what impact will our contribution have? Is it even worth PR value?

Problem 2

Assume we target projects related to specifics, like lung cancer. Will our 2 to 3 million dollars have any effect? Probably not. The national cancer research effort today totals over 200 million dollars. Besides, how do you judge high-return, worthy, viable fields of work for support? Too many investigators have selfish interests for us to take their judgments at face value. No matter what or how we select, prospects for a positive benefit are small.

Option B.

Use the CTR program as a means of establishing expert scientific witnesses who will testify on behalf of the industry in legislative halls, in litigations, at scientific meetings, and before the press and the public.

If this objective is the purpose of CTR, then a very limited, selective grant program should be adequate to do the job. There would be little need for research contracts or an extensive staff in headquarters. One might also question how long it would take for the witnesses to acquire the "rain" of industry money.

I cannot judge the litigative value of this approach, but I am impressed by the legislative testimony we are able to muster at Congressional hearings. On the other hand, my contacts with scientists outside the industry do not reveal an extensive awareness of, or appreciation for, the CTR program. It would be interesting to try to measure such awareness by the public, the medical profession, or by scientists at large. If after 16 years and 20 million dollars such a study comes up with a blank, as I think it would, then we can only conclude that CTR as presently organized and operated is not convincing the public that we are objectively seeking the "truth" or "establishing good faith in the scientific community."

Option C.

Aim CTR research at the discovery of information of use and value to the cigarette industry.

Rational

There are many unresolved questions relating cigarette smoking to the smoker. Research on these problems would help us to understand better our product and our consumer. The results of such research applied to our business would undoubtedly help us overcome some of the criticisms we are facing. These topics are not new.

1. Biomedical studies on the effects of smoke on the smoker and on how to ameliorate undesirable effects by changing our products.

Produced by RJC

ATC
position

2022200162

52614 7850

Mr. J. F. Cullman III

- 3 -

December 8, 1970

2. Psychosocial studies on the positive benefits of smoking as revealed by smoker behavior patterns.
3. Epidemiological and demographic studies so we can give scholarly replies to the erroneous allegations of our critics.

The way to earn the approval and respect of the scientific community is to carry out and publish good research. I don't think we get much credit for this by giving grants.

CONCLUSION

It would seem appropriate to explore in some depth during the next year or two how CTR is or might be serving the needs of the cigaret industry. The disparity of opinion on this subject within the industry indicates that the answer to the question is not obvious. If we (members of the industry) cannot convince ourselves of a definite answer to the question "HOW", then we might very well decide it is wasted effort. If so, CTR should be terminated.

HW Wakeham

cc: Mr. R. R. Miltner
Mr. C. H. Goldsmith
Mr. A. Holtzman
Mr. P. D. Smith
Mr. H. Cullman
Mr. J. C. Bowling
Dr. R. Fagan
Dr. T. S. Gedge

2022200163

52614 7851

24

HUMPHREY

in

produced by IRTC

CTR MN CONFIDENTIAL. MINNESOTA TOBACCO LITIGATION

RCH

The Council For Tobacco Research - U.S.A., Inc.
 310 EAST 42ND STREET
 NEW YORK, N. Y. 10017

February 13, 1974

Fredrick Hamberger, M.D.,
 President
 Bio-Medical Consultants, Inc.
 9 Commercial Avenue
 Cambridge, Massachusetts 02142

Dear Freddy:

Our last letters apparently reached in the mail. I am aware of the paper by Fontenault and associates; in fact, I had known of its contents for some time, that was one reason why we waited just to get your definitive paper in your circles with much exposure of hamster in so that it might be published. I have your own very detailed final report and it certainly seems that the work reported there merits reporting. Photographs of the lesions were not available however. When we get a summary and illustrations so that this result can be evaluated by us and our consultants we will be in a better position to discuss definitive publication with you.

We desire to expedite early definitive publication of your work. As Dr. Hammett and others of us have told you, however, we cannot agree to a preliminary or preliminary publication, which may be misinterpreted. Therefore, we must insist on your observing your contract obligations not to publish without our approval. Dr. Hammett has taken up with you some of the points and our pathology consultants had mentioned in relation to your work and abstracts of papers to be presented at meetings. Again illustrations were not available. If material is to be presented repeatedly at meetings it should, it might be in process of definitive publication.

As to your previous letter and attached chronology, in medical papers would be served by detailed reference to the studies and illustrations mentioned in them. Moreover, a few general observations that have been made to you several times deserve repetition. As you have, and as I learned when I became affiliated with the Council, the contract with Bio-Medical Consultants, Inc. was for support of a feasibility study for the exposure of hamsters on laboratory animals to fresh smoke. Your experiences indicated that the hamster was the species you considered most desirable. The Council and the Scientific Advisory Board were anxious of getting an animal model that might give answer of the lungs similar to those arising in man and discussed rationally with exposure to cigarette smoke over long periods of time. The hamster did not do this in either your or Fontenault's investigations.

As we have told you several times, it was for this as well as other reasons -- ranging from a choice of the bones over the hamster as the animal to be exposed to consideration of available facilities for various aspects of the studies -- that we decided not to support further hamster inhalation work at your

MNH 23136



WA

CTR 002366

produced by RJRTC

February 13, 1974

I understand that you have lost copies of your previous letter referring to this matter in regard to the Russian Empire. I am therefore sending the copies of this letter.

21mcr519.

William U. Gardner, Ph.D.
Scientific Director

MSD 11-13

bee; Acorn, Holman [Metal, Lake], Finch [Kryant, Fyck], Tisch [Stevens,
Spears], Culina [Gunnell, Mahowald], Fish [Boomer, Benson], Benth
[Schmitt], Co., etc.), Alnet [Finn], Jacob, Early and Farm.

44-23187

CTRX 002367

CTR MN CONFIDENTIAL, MINNESOTA TOBACCO LITIGATION

52614 7854

produced by RJRTC
in
HUMPHREY

WA

Produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

PRIVILEGED MATERIAL REDACTED

680212421

DEPOSITION
EXHIBIT

30

EXHIBIT #

12

DATE

7-12-01

CAROLE A. YELTON

LUKAS

DEPOSITION

52614 7855

Produced by RJC/TTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

PRIVILEGED MATERIAL REDACTED

680218-1

52614 7856

produced by RJKT/C

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

660212423

52614 7857

25

HUMPHREY

in

produced by KJRTC

BEST
COPY

produced by RJRTC

in

MEMPHREY

PRIVILEGED MATERIAL REDACTED

ATX-927549-0271

DEPOSITION
EXHIBIT

25

52614 7859

150

BEST
COPY

produced by RILEY

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

3

ATX-927549-0272

52614 7860

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

3

ATX-927549-0273

52614 7861

BEST
COPY

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

ATX-927549-0274

52614 7862

BEST
COPY

produced by RITC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

ATX-927549-0075

52614 7863

produced by REFATC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

ATX-927549-0276

BEST
COPY

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

ATX-927549-0277

52614 7865

BEST
COPY

produced by RJIETC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

ATK-927549-0278

52614 7866

BEST
COPY

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

ATX-927549-0279

52614 7867

BEST
COPY

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

-10-

ATX-927549-0280

52614 7868

26

HUMPHREY

in

produced by RJRT

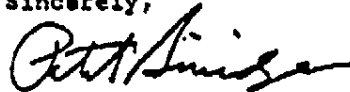
4248

SHOOK, HARDY & BACON

November 24, 1981
Page Two

I would appreciate hearing your response on this matter
at the Committee of Counsel meeting on December 10.

Sincerely,



Patrick M. Sirridge

PMS:sh
cc: Alexander Holtzman, Esq.

Ms. Janet C. Brown
Edwin J. Jacob, Esq.

produced by RJRTC

in

HUMPHREY

BLY-00001329

52614 7871

27

HUMPHREY

in

produced by RPTC

produced by RJRTC

in

HUMPHRIES

PHILIP MORRIS

U. S. A.

RESEARCH CENTER RICHMOND, VIRGINIA

APR 8 1980

ROBERT S. SELIGMAN, Ph. D.

VICE PRESIDENT
RESEARCH AND DEVELOPMENT

March 31, 1980

Dr. Alex Spears
P. Lorillard
2525 Market Street
Greensboro, North Carolina 27420

Dear Alex:

Mr. J. C. Bowling of our New York Office asked that I send you our recommendations for industry research which we prepared last year. To that end, you will find attached a list entitled, "Potential Long-Term Scientific Studies" which Dr. Osden and I generated early last year. Additionally, I have added a list of three subjects which I feel should be avoided.

If you have any questions, please let me know.

Very truly yours,

Robert S. Seligman

RBS/sgt

Attachments

cc Mr. J. C. Bowling
Dr. T. S. Osden

01307175

DEPOSITION
EXHIBIT

27

52614 7873

POTENTIAL LONG-TERM SCIENTIFIC STUDIES

1. Validation of new short-term bioassays versus long-term skin painting and inhalation.
2. Correlation between skin painting and inhalation.
3. The effect of environmental and other factors in skin painting and/or inhalation.
 - (a) Skin painting in germ-free animals
 - (b) Effect of diet on tests
 - (c) Effects of induced or a diet on test.
 - (d) Viral environment immunological competence.
4. Effects of strain variation on skin painting.
5. Different species responses to smoke and/or condensate.
6. Relevance of long-term test to man in biochemical terms only ???
7. Investigate threshold of carcinogens in various species with specific chemicals.
8. Investigate end points of bioassays, especially in inhalation (experimental animals).
9. Smoke related effects in respiratory system using single or multiple smoke components.
10. Metabolic fate of nicotine using labeled nicotine in animals.
11. Interaction of nicotine with drugs (biochemical only).
12. Positive effects of smoking (exhaustion ^{and} smoking).
13. Address question whether nitrosamines are relevant to inhalation toxicology.
14. "The nitrate dilemma"-- Skin painting versus inhalation. How does one manage the trade-off?
15. Ambient smoke -- any danger to nonsmoker?
16. Effect of smoke and/or nicotine on naive animals versus acclimatized animals.
17. Adaptation to environmental insults.

01347176

Produced by RJRTC

in

HUMPHREY

SUBJECTS TO BE AVOIDED

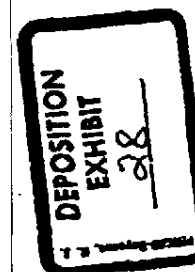
There are mutually exclusive with regard to page 2

1. Developing new tests for carcinogenicity. (See note)
2. Conducting experiments which require large doses of carcinogen to show additive effect of smoking. (Cimphurkin etc)

01347177

produced by RJRTC
in
HUMPHREY

28



1153

PRIVILEGED MATERIAL REDACTED

produced by RJRTC
in
HUMPHREY

PRIVILEGED MATERIAL REDACTED

HUMPHREY

in

produced by RJRTC

produced by RJRTC

in

HUMPHREY

PRIVILEGED MATERIAL REDACTED

50365 2149

52614 7879

50365 2150

PRIVILEGED MATERIAL REDACTED

HUMPHREY

in

produced by RJC